

**МИНИСТЕРСТВО ОБРАЗОВАНИЯ РЕСПУБЛИКИ БЕЛАРУСЬ**

**Белорусский национальный технический университет**

**Кафедра английского языка №2**

**Электронный учебно-методический  
комплекс по учебной дисциплине**

**«ИНОСТРАННЫЙ ЯЗЫК (АНГЛИЙСКИЙ)»**

**для студентов I ступени получения высшего образования специальности**

**1-08 01 01-07 Профессиональное обучение**

**(информатика)**

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Диск содержит данные об учебно-методическом комплексе по дисциплине «Иностранный язык (английский)», который предназначен для студентов очной формы получения высшего образования, а также преподавателей БНТУ кафедры английского языка №2. Может использоваться как для проведения аудиторных практических занятий, так и для самостоятельной работы студентов

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## СОДЕРЖАНИЕ

<b>ПОЯСНИТЕЛЬНАЯ ЗАПИСКА</b> .....	<b>4</b>
<b>ПЕРЕЧЕНЬ МАТЕРИАЛОВ</b> .....	<b>5</b>
<b>ТЕОРЕТИЧЕСКИЙ РАЗДЕЛ</b> .....	<b>6</b>
<b>ПРАКТИЧЕСКИЙ РАЗДЕЛ</b> .....	<b>7</b>
<b>РАБОЧИЕ МАТЕРИАЛЫ</b> .....	<b>8</b>
Unit I. Information Systems and Technologies .....	8
Unit II. Parts of Computer .....	18
Unit III. Types of Computers .....	28
Unit IV. Types of Computer Software .....	37
Unit V. Microsoft Operating Systems.....	46
Unit VI. Windows Structural Elements .....	57
Unit VII. Microsoft Office Applications.....	65
Unit VIII. When Your Laptop Screen Goes Black .....	75
Unit IX. Information Technologies in Teaching Learning Process .....	83
Unit X. Internet.....	88
Unit XI. This is Belarus, Baby!.....	93
Unit XII. Belarusian Outstanding Researches .....	100
<b>РАЗДЕЛ КОНТРОЛЯ ЗНАНИЙ</b> .....	<b>106</b>
<b>ОБРАЗЦЫ ТЕМАТИЧЕСКИХ ТЕСТОВ</b> .....	<b>106</b>
<b>ОБРАЗЦЫ ТЕСТОВ ДЛЯ ИТОГОВОГО КОНТРОЛЯ</b> .....	<b>113</b>
<b>ПРЕДМЕТНО-ТЕМАТИЧЕСКОЕ СОДЕРЖАНИЕ ЗАЧЁТА И ЭКЗАМЕНА</b> .....	<b>121</b>
<b>ВСПОМОГАТЕЛЬНЫЙ РАЗДЕЛ</b> .....	<b>122</b>
УЧЕБНАЯ ПРОГРАММА БНТУ ПО УЧЕБНОЙ ДИСЦИПЛИНЕ «ИНОСТРАННЫЙ ЯЗЫК (АНГЛИЙСКИЙ)» .....	122
УЧЕБНО-МЕТОДИЧЕСКАЯ КАРТА УЧЕБНОЙ ДИСЦИПЛИНЫ .....	131
СРЕДСТВА ДИАГНОСТИКИ РЕЗУЛЬТАТОВ УЧЕБНОЙ ДЕЯТЕЛЬНОСТИ (МОДУЛЬ КОНТРОЛЯ).....	133
МЕТОДИЧЕСКИЕ РЕКОМЕНДАЦИИ ПО ОРГАНИЗАЦИИ И ВЫПОЛНЕНИЮ САМОСТОЯТЕЛЬНОЙ РАБОТЫ СТУДЕНТОВ .....	134
МЕТОДЫ (ТЕХНОЛОГИИ) ОБУЧЕНИЯ.....	134
<b>СПИСОК РЕКОМЕНДУЕМОЙ ЛИТЕРАТУРЫ</b> .....	<b>136</b>

## ПОЯСНИТЕЛЬНАЯ ЗАПИСКА

Данный электронный учебно-методического комплекс (ЭУМК) предназначен для реализации образовательной программы по учебной дисциплине «Иностранный язык (английский)» для специальности 1-08 01 01 Профессиональное обучение (по направлениям): направление специальности 1-08 01 01-07 «Профессиональное обучение (*информатика*)» на I ступени обучения.

*Целью* ЭУМК является формирование иноязычной коммуникативной компетенции будущего специалиста, позволяющей использовать иностранный язык как средство профессионального и межличностного общения в области информационных технологий. В процессе достижения главной цели решаются следующие задачи:

*познавательные* (знакомство с основными аспектами технической специальности посредством иностранного языка);

*развивающие* (совершенствование коммуникативных умений, формирование потребности к самостоятельной познавательной деятельности, систематизация знаний и умений);

*практические* (овладение иноязычным общением в единстве всех его компетенций, функций и форм, что осуществляется посредством взаимосвязанного обучения всем видам речевой деятельности в рамках определенного программой предметно-тематического содержания, а также овладения технологиями языкового самообразования).

Оформление и использование ЭУМК по учебной дисциплине осуществляется в соответствии с требованиями СТП СМК БНТУ 6.3–02–2014.

*Особенностью структурирования и подачи учебного материала* является сама структура комплекса, которая позволяет эффективно реализовывать процесс обучения при проведении практических занятий, а также ориентирует обучающегося на использование иностранного языка в качестве инструмента профессиональной деятельности: для перевода и реферирования профессионально-ориентированных и научных текстов, выступления с публичной речью, составления деловой документации.

*Рекомендации по организации работы с ЭУМК.* Данный электронно-методический комплекс предназначен как для аудиторных занятий, так и для самостоятельной работы студентов, обучающихся по специальности 1-08 01 01 Профессиональное обучение (по направлениям), направление специальности 1-08 01 01-07 «Профессиональное обучение (*информатика*)».

## ПЕРЕЧЕНЬ МАТЕРИАЛОВ

Структура ЭУМК включает следующие разделы: теоретический, практический, контроля знаний и вспомогательный.

**Теоретический раздел** ЭУМК включает в себя учебно-методическое пособие «Практическая грамматика английского языка» Колосовой Т.В., Крюковой Л.А., которое позволяет студентам технического вуза повторить грамматические явления языка и рассмотреть их на примерах из технической литературы, что повышает мотивацию изучения иностранного языка для специальных целей. Чёткая структура предлагаемого пособия помогает студентам систематизировать знания и, в случае необходимости, воспользоваться им на разных этапах обучения при самостоятельной работе.

**Практический раздел** ЭУМК включает в себя дидактический материал, представляющий собой разработки с дополнительными заданиями как для работы на практических занятиях при непосредственном контроле преподавателя, так и для самостоятельной работы студентов. Разнообразный характер упражнений позволяет варьировать лексическую и грамматическую наполняемость занятия в соответствии с практическими задачами, а также дает возможность выбора для соответствия определенному уровню владения иностранным языком. Предполагается, что данные наработки лягут в основу учебного пособия по дисциплине для специальности. Кроме того, дополнительно используются такие учебники и учебные пособия, как: «Английская мова. Камп'ютарныя тэхналогіі» (М.В. Макарич, В.В. Пытко), «Английский язык для инженеров» (под общ. ред. Т.Ю. Поляковой), «Engineering Activities and the Environment» (Е.Е. Глуховская, Т.В. Колосова), «English Grammar in Use» (R. Murphy), «Technology 2» (Е.Н. Glendinning, А. Pohl); энциклопедии: «Encyclopædia Britannica», «The World Book Encyclopedia», «McGraw-Hill Encyclopedia of Science and Technology», «Children's Britannica», а также словари: электронные словари ColorDict, Merriam-Webster Dictionary, Oxford Dictionary of English и онлайн-словарь-справочник academic.ru.

**В разделе контроля знаний** ЭУМК представлены образцы лексико-грамматических тестов тематического и итогового контроля, а также предметно-тематическое содержание зачёта и экзамена.

**Во вспомогательный раздел** включены учебная программа БНТУ по дисциплине «Иностранный язык (английский)», включающая учебно-методическую карту дисциплины, и список рекомендуемой литературы.

## ТЕОРЕТИЧЕСКИЙ РАЗДЕЛ

Теоретический раздел включает необходимый для изучения грамматический материал, который представлен в учебно-методическом пособии:

Колосова, Т. В. Практическая грамматика английского языка: учебно-методическое пособие для строительных специальностей БНТУ / Т.В. Колосова, Л.А. Крюкова. – Минск: БНТУ, 2005. – 107 с.  
<http://rep.bntu.by/handle/data/30611>.

## **ПРАКТИЧЕСКИЙ РАЗДЕЛ**

Практический раздел включает методические разработки и упражнения по разделам грамматики, практики устной и письменной речи и технического перевода.

# РАБОЧИЕ МАТЕРИАЛЫ

Составители:

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## Unit I. Information Systems and Technologies

### 1. All Tenses Compared

See the table “All Tenses Compared”. Study it carefully and then do an entry test.

Active					
		Indefinite	Continuous	Perfect	Perfect Continuous
Present	V, V-s	am is are } V-ing	have V + ed V III	have V + ed V III	have been V-ing
	<b>I write</b> (always, often, usually, sometimes, seldom)				
Past	V + ed V II	was V-ing were	had V + ed had V III	had V + ed had V III	had been V-ing I had been writing (Mary felt tired as she had been writing for several hours).
	<b>I wrote</b> (yesterday, last week)				
Future	will V	will be V-ing	will have V + ed will have V III	will have V + ed will have V III	will have been V-ing I will have been writing (Gregory will have been working for hours when we come).
	<b>I will write</b> (tomorrow, next year)				

### 1. Entry Test

#### 2.1. Define the tense of the verb

- Computer programming deals with the design of software.
  - Present Indefinite; b) Present Continuous; c) Present Perfect.
- I didn't think that Information Technologies often overlapped with bionomics.
  - Present Indefinite; b) Past Indefinite; c) Future Indefinite.
- His mother wants him to be an engineer.
  - Present Indefinite; b) Past Indefinite; c) Past Perfect.
- Charles Babbage was a famous English mathematician, who first proposed a programmable machine.
  - Past Indefinite; b) Past Continuous; c) Present Indefinite.
- He will receive good knowledge in our educational establishment.
  - Future Indefinite; b) Future Continuous; c) Future Perfect.
- At present he is looking for something unusual.
  - Past Continuous; b) Present Perfect; c) Present Continuous.
- I knew all main principles of predicate logic at the exam yesterday.



a) Present Indefinite; b) Past Indefinite; c) Past Perfect.

8. Skaryna laid the foundations of the Belarusian literary language.

a) Past Indefinite; b) Past Perfect; c) Past Continuous.

9. By the first of September they will have been working at the compiling this program for 15 months.

a) Future Perfect; b) Future Continuous; c) Future Perfect Continuous.

10. The idea to implement Information Technologies into teaching process has attracted the attention of the academic staff.

a) Present Indefinite; b) Present Perfect; c) Past Perfect.

## **2.2. Choose the right translation of the predicate**

1. They studied many special subjects at the BNTU.

a) вивучаюць; b) вивучалі; c) вивучаць.

2. They are removing the part of outmoded equipment.

a) выдаляць; b) выдаляюць; c) выдалілі.

3. Students have read much professional literature lately.

a) прачыталі; b) чытаюць; c) прачытаюць.

4. For many centuries the scientists of the world have been working to uncover secrets of nature.

a) працавалі; b) працуюць; c) будуць працаваць.

5. When the student entered the auditorium, the lecturer had already been delivering new material for 10 minutes.

a) будзе выкладаць; b) выкладае; c) выкладаў.

6. By the first of December he will have been working as a head of the department for fifteen years.

a) працуе; b) працаваў; c) будзе працаваць.

7. A teacher identifies the level of students' skills with the help of entry tests.

a) мусіць вызначыць; b) вызначае; c) вызначыў.

8. They did not find all necessary materials yesterday.

a) не знаходзяць; b) не знойдуць; c) не знайшлі.

9. The amount of portable media players and multi-purpose pocket computers is rising in the world very fast.

a) павялічыўся; b) павялічыцца; c) павялічваецца.

10. What will you have done before I come?

a) зрабіў; b) мусіш рабіць; c) зробіш.

## **2.3. Find and underline the predicate in each sentence. Translate the whole Sentence**

1. A generation of ecologically inspired engineers tries to use the sun, wind, water as energy consumption sources.

2. Computer programming came to existence when the humans first started to construct a decision making machine.

3. The scientific cooperation between these countries extends many areas of human activities.

4. I have known the names of the speakers.

5. Quantum computing studies computation systems that make direct use of quantum-mechanical phenomena.

6. According to an optimistic scenario all new computers will be quantum in the nearest future.
7. He was a famous scientist of that time.
8. Our laboratories have advanced equipment for experiments.

#### 2.4. Put the verbs in brackets into the correct form

1. The tsarist government (not to allow) a woman to study and work at the University.
2. For many centuries scientists of the world (to work) to uncover secrets of nature.
3. Information Technologies (to bring) a real revolution in science now.
4. After the head of department (to check) all the calculations of the project he (to allow) to make its copies.
5. By the first of August 2012, he (to work) at this Institute for fifteen years.

## 2. Word Study

### a. Study your active vocabulary

hierarchy	ієрархія	иєрархия
degree of commonality	ступень уніфікації	степень унификации
electronically mediated communications	електронні приставанні для передачі інформації	электронные устройства для передачи информации
subset	падмноства	подмножество
server operating system	операційна система сервера	операционная система сервера
web server software	програмне забезпечення сервера вебсторінки	програмное обеспечение сервера вебстраницы

### 3.2. Read these international words and try to guess their meaning

Technology, information, role, process, computer, discipline, structure, television, telephone, symbol, civilization, category, statistical, mathematical, method, multidisciplinary.

### 3.3. Give three forms of the following verbs and revise their meaning

To facilitate, to encompass, to distinguish, to create, to store, to manipulate, to disseminate, to retrieve.

### 3.4. Match the words with their definitions

1) eCommerce	a) A conductor made with semiconducting materials.
2) Hardware	b) Historical area on the territory of Western Asia.
3) Harvard Business Review	c) Commercial transactions conducted electronically on the Internet.
4) Mesopotamia	d) The technique of representing the real world by a computer program.
5) Semiconductor	e) Written programs or procedures to the operation of a computer system.
6) Simulation	f) Any system or agency that provides centralized organization or general cover for a group of related companies, organizations.
7) Software	g) Apparatus for communicating at a distance.
8) Sumerians	h) The mechanical, magnetic, electronic and electrical components making up a computer system.
9) Telecom equipment	i) Ancient people that lived on the territory of modern Iraq.
10) Umbrella	j) A general management magazine published by Harvard University.

### **3.5. Open the brackets and put the right form of the verb.**

1. Information is data that has been processed into a form that (has been/ was/is) meaningful to the user.
2. Information systems and technologies (became/ will become/ have become) a vital component of businesses and organizations.
3. People (relied/rely/are relying) on information systems to communicate with each other using a variety of physical devices, information processing instructions and procedures.
4. In 2012, Zuppo 9 (has proposed/will propose/proposed) an ICT hierarchy where each hierarchy level contains some degree of commonality.
5. Humans (had stored/have been storing/will store) information since the Sumerians in Mesopotamia developed writing in about 3000 BC.
6. Summarization and message routing are the two methods that (have been increasing/will increase/increase) the sending and receiving efficiency of the system.

### **3. Reading Practice**

**4.1. While reading the text find the sentences where the Present Indefinite Active is used.**

#### **Information Systems and Technologies**

Information technology (IT) is the application of computers to store, study, retrieve, transmit, and manipulate data, or information, often in the context of a business or other enterprise. IT is considered as a subset of information and communications technology (ICT). In 2012, Zuppo proposed an ICT hierarchy where each hierarchy level contains some degree of commonality in that they are related to technologies that facilitate the transfer of information and various types of electronically mediated communications.

The term IT is commonly used as a synonym for computers and computer networks, but it also encompasses other information distribution technologies such as television and telephones. Several industries are associated with information technology, including computer hardware, software, electronics, semiconductors, internet, telecom equipment, and e-commerce.

Humans have been storing, retrieving, manipulating, and communicating information since the Sumerians in Mesopotamia developed writing in about 3000 BC but the term IT in its modern sense first appeared in a 1958 article published in the Harvard Business Review. Its authors Harold J. Leavitt and Thomas L. Whisler commented: "The new technology does not yet have a single established name. We shall call it information technology (IT)." Its definition consists of three categories: techniques for processing, the application of statistical and mathematical methods to decision-making, and the simulation of higher-order thinking through computer programs.

The conception of IT is closely associated with Information Systems. IT falls under the information systems umbrella but has nothing to do with systems per say. IT deals with the technology involved in the systems themselves, e.g. an information system contains many information technologies such as servers, server operating systems, web server software etc.

An Information System (IS) is a large umbrella referring to systems designed to create, store, manipulate or disseminate information. An example of an information system is a pencil and a piece of paper. The two objects themselves are just tools, but together they create a system for writing information.

IS is implemented within an organization for the purpose of improving the effectiveness and efficiency of the organization. Capabilities of the information system and characteristics of the organization, work systems, people and development methodologies together determine the extent to which that purpose is achieved.

As an area of study IS and IT include the multidisciplinary business field and the interdisciplinary computer science field that is evolving toward a new scientific discipline. IS and IT course is a broader field that includes computer science course as its main constituent part.

#### **4. Comprehension Check**

##### **5.1 State whether the statements are true or false. Correct if necessary**

1. Information technology is the theory and practice of using computers to store and analyse information.
2. Each level in the ICT hierarchy proposed by Zuppo contains some degree of particularity in that they are related to technologies that facilitate the transfer of information.
3. The term computer network is very closely associated with the term Information technology.
4. Television and telephones are within the compasses of the term IT.
5. Information technology is a broad notion as it embraces computer hardware, software, electronics, semiconductors, internet, telecom equipment, and e-commerce.

##### **5.2. Answer the following questions to the text**

1. What unites computers, television and telephones?
2. The term Information technology is a peculiar one, as it appeared in modern sense in about 3000 BC, isn't it?
3. What are computers applied in information technology for?
4. What are the categories of the Information technology?
5. What is a subset of information and communications technology?
6. How did the Sumerians in Mesopotamia store, retrieve and manipulate information?
7. What is the definition of IT?
8. Why is it possible to present a pencil and a piece of paper as an information system example?

9. What is the main function of an Information System?

**5.3. Read the text and fill in the gaps with the words from the list**

a) activities; b) computer; c) data; d) devices; e) function; f) hardware; g) information; h) instructions; i) machine; j) memory; k) output; l) peripherals; m) program; n) sections; o) software; p) system; q) the central processing unit.

**What is a computer?**

A computer is an electronic 1) ... which can accept data in a certain form, process the data, and give the results of the processing in a specified format as 2) ... . First, data is fed into the computer's 3) ... . Then, when the program is run, the computer performs a set of 4) ... and processes the data. Finally, we can see the 5) ... on the screen or in printed form. A computer 6) ... consists of two parts: hardware and software. 7) ... is any electronic or mechanical part you can see or touch. 8) ... is a set of instructions, called a 9) ... , which tells the computer what to do. There are three basic hardware 10) ... : the central processing input (CPU), main memory and peripherals. Perhaps the most influential component is 11) ... . Its 12) ... is to execute program instructions and coordinate the 13) ... of all the other units. In a way, it is the 'brain' of the 14) ... . The main memory holds the instructions and 15) ... which are being processed by the CPU. 16) ... are the physical units attached to the computer. They include input/output and storage 17) ... .

**5. Conversational Practice**

**6.1. Read the dialogue "Computers in our life"**

Bernard: Hello! How are you?

Jack: Hi. I'm fine. And you?

Bernard: I'm OK. What are you doing?

Jack: I'm writing an essay.

Bernard: What is the essay about?

Jack: It's about the role of computers in our life.

Bernard: Oh, it's interesting. Is it positive or negative?

Jack: Of course it's positive. Personally, I think that computers have only advantages.

Bernard: To be honest, I don't agree with you.

Jack: Why? Nowadays we can't imagine our life without them. They are our brain.

Bernard: Don't forget computers are dangerous to our health. The monitors are harmful for eyesight. Moreover working with computers for a long time can cause epilepsy.

Jack: Due to them modern medicine can diagnose diseases faster and more effectively. They control all data on hard disks. Imagine how much paper would have to be used, how many trees would have to be cut just to store information.

Bernard: But computers have different viruses. The biggest problem is when your hard disks break down and you lose your documents.

Jack: Ok, tell me, please, how you can watch movies, listen to the music, play games without computers?

Bernard: It's the main threat. Because of this you can be computer addict. Moreover teenagers have access to pornography and bloody games.

Jack: With the help of computers we get access to the Internet. There are free calls from different countries which make the world smaller. Nowadays, it takes just a minute to buy a ticket and check in hotels of other countries. You can easily shop online everywhere. Also they are wide-spread in education. Furthermore architects, designers and engineers can't do their work properly without computers. And they... .

Bernard: Stop, please. I understood you. You are right that computer is an essential part of our life. I just want to prove you that they have disadvantages as well as advantages. It will be better to mention them too.

Jack: Do you want to say that I should write two essays?

Bernard: No, just write down pros and cons of computer in one essay while comparing them.

Jack: Good idea! Thank you very much!

Bernard: Not at all!

## **6.2. Answer the following questions to the dialogue**

1. What do the friends think about the role of computers in our life? Whom do you agree with?
2. What is the main advantage of the computer?
3. Which computer capacity helps to save such natural resources as trees? Why?
4. The computers have got only positive characteristics, haven't they?
5. What can make you computer addict?
6. How can the Internet make the world smaller?
7. Whom are computer viruses dangerous for?
8. How can computers be hazardous to human health?

## **6.3. Role-play the dialogue with your partner on analogy. Use set expressions and phrases given below**

a) frankly speaking; b) as far as I know; c) for sure; d) right you are.

## **7. Progress Test**

### **7.1. Open the brackets and put the right form of the verb.**

1. The contacts of our engineers with their colleges in other countries steadily (to grow).
2. Our scientists (to investigate) this important problem for five years now.
3. I didn't think to use expensive materials in modern computers (to be) a good idea.
4. We (to read) much literature about IT.
5. Very often teachers (to apply) new professional software for their work.
6. Builders (to construct) the new building of the BNTU by the end of the next year.
7. This scientist's works and his ideas (to become) the basis of our theoretical investigation.
8. When heated to the boiling point water (to evaporate).
9. Students (to do) their English test at 2 o'clock yesterday.
10. They (to learn) these words for twenty minutes.
11. He already (to do) this work.

12. We (to depart) tomorrow.
13. The student writing on the blackboard (to be) from BNTU.
14. You ever (to be) to London?
15. He (to write) an essay since morning.
16. You (to like) your future profession?
17. What you (to do) now?

**7.2. Choose the right translation variant of the following Sentences**

1. We have read much technical literature lately.
  - a) Мы прачытаем шмат тэхнічнай літаратуры за апошні час.
  - b) Мы павінны прачытаць шмат тэхнічнай літаратуры за апошні час.
  - c) Мы прачыталі шмат тэхнічнай літаратуры за апошні час.
2. The contacts of Belarusian scientists with their colleagues in other countries are steadily growing.
  - a) Кантакты беларускіх навукоўцаў з замежнымі калегамі павялічыліся з цягам часу.
  - b) У іншых краінах павялічваецца колькасць кантактаў з беларускімі навукоўцамі.
  - c) Кантакты беларускіх навукоўцаў з замежнымі калегамі неўплынна павялічваюцца.
3. I will have written my scientific work by the end of the year.
  - a) На прыканцы года споўніцца шмат часу, як я пішу навуковую працу.
  - b) Я скончыла напісанне працы да заканчэння гэтага года.
  - c) Я скончу напісанне навуковай працы да заканчэння бягучага года.
4. I was working in the library the whole day yesterday.
  - a) Учорашні дзень я цалкам прысвяціў працы ў бібліятэцы.
  - b) Учора я цалкам скончыў сваю працу ў бібліятэцы.
  - c) Заўтрашні дзень я цалкам прысвячу бібліятэчнай працы.
5. I shall be writing my paper at 5 o'clock tomorrow.
  - a) Я напішу рэферат каля пяці гадзін заўтра.
  - b) Заўтра ў пяць гадзін я буду заняты напісаннем рэферата.
  - c) Я скончу напісанне рэферата заўтра да пяці гадзін.

**7.3. Choose the right variant to complete the sentences**

1. Computers are ...
  - a) the most important part of our life;
  - b) an essential part of our life;
  - c) very friendly to users.
2. As an area of study IS and IT includes...
  - a) the multidisciplinary industrial field and the interdisciplinary computer science field;
  - b) the multidisciplinary business field and the interdisciplinary computer science field;
  - c) the multidisciplinary social field and the interdisciplinary computer science field.

3. Computers have different ...
  - a) bacterium;
  - b) viruses;
  - c) worms.
4. An example of an information system is ...
  - a) a pencil and a piece of paper;
  - b) a set of writing;
  - c) a calculating table.
5. An information system contains ...
  - a) many information technologies;
  - b) many computers;
  - c) many manufacturing technologies.
6. ... to decision-making is the main task of an analyst-programmer.
  - a) The developing new solutions;
  - b) The application of new software;
  - c) The application of statistical and mathematical methods.
7. The term IT is commonly used as ...
  - a) a synonym for computers and computer networks;
  - b) a synonym for computers and computer software;
  - c) a synonym for iPod and computer networks.
8. With the help of computers users...
  - a) get control to the Internet;
  - b) get access to the Internet;
  - c) lose access to the Internet.
9. Information technology is ...
  - a) the application of computers to store, study, retrieve, transmit, and manipulate data;
  - b) the application of computers to store, study, retrieve, transmit, and manipulate people;
  - c) the application of computers to store, study, retrieve, transmit, and manufacture data.
10. The term IT in its modern sense first appeared ...
  - a) in a 1958 article published in the Harvard Business Magazine;
  - b) in a 1958 article published in the Harvard Business Review;
  - c) in a 1958 article published in the Harvard Business Review Journal.

#### **7.4. Fill in the necessary prepositions**

1. The term Information technology in its modern sense first appeared ... a 1958 article.
2. IT deals with the technology involved ... the systems themselves.
3. The term IT is commonly used ... a synonym ... computers and computer networks.



4. An ICT hierarchy is where each hierarchy level contains some degree ... commonality in that they are related ... technologies that facilitate the transfer of information.
5. Information technology is the application ... computers to store, study, retrieve, transmit, and manipulate data often ... the context of a business enterprise.
6. The conception of Information technology is closely associated ... Information Systems.
7. Due ... computers modern medicine can diagnose diseases faster and more effectively.
8. With the help of computers we get access ... the Internet.

### **7.5. Fill in the necessary articles**

- 1) Workers use handheld computing devices to collect data at ... customer site, to generate forms, to control inventory.
- 2) With small computing devices available for controlling ... flow of information in ... organization people are able to spend more time being active.
- 3) Computers can help ... people work more creatively.
- 4) Multimedia combines ... text with sound, video, animation and graphics, which greatly enhances ... interaction between user and machine.
- 5) Personal computers have ... potential to significantly improve ... way we relate to each other.
- 6) Many people today telecommute – that is, use their ... computers to stay in ... touch with ... office while they are working at ... home.
- 7) With ... proper tools, hospital staff can get ... diagnosis from ... medical expert hundreds or thousands of miles away.
- 8) ... disabled can communicate more effectively with others using computers.

## Unit II. Parts of Computer

### 1. Passive Voice

See the table “Passive Voice”. Study it carefully and then do an entry test.

	Indefinite	Continuous	Perfect
Present	am } is } V + ed are } V + III  <b>I am instructed</b> (every year, every month)	am } is } being V + ed are } being V + III  <b>I am being instructed</b> (now)	have } has } been V + ed } been V + III  <b>I have been instructed</b> (already, yet)
Past	was } were } V + ed } V + III  <b>I was instructed</b> (yesterday, last week)	was } were } being V + ed } being V + III  <b>I was being instructed</b> <b>when he came</b>	<b>had been + V + ed</b> <b>had been + V + III</b>  <b>I had been instructed</b> <b>by the time he came</b>
Future	<b>will be + V + ed</b> <b>will be + V III</b> <b>I will be instructed</b> (next month, tomorrow)	Not used	<b>will have been V + ed</b> <b>will have been V + III</b> <b>I will have been instructed</b> (by 4 p.m tomorrow)

You can find more information about Passive Voice here:

<http://www.perfect-english-grammar.com/passive.html>

### 2. Entry Test

#### 2.1. Define the tense of the underlined passive constructions

- Information has been stored since the company developed a new text processing system.
- Humans will be given a possibility to travel to outer space in future.
- A storing device had been tested before our engineers came back.
- The phone was left in the car.
- The swimming pool is closed because it is being cleaned.
- The monitor of your computer will be delivered this afternoon.
- My phone was stolen yesterday.
- Napa Valley is known for its excellent wines.
- The Mona Lisa was painted by Leonardo Da Vinci.
- A speeding ticket was given to Mr. Taylor by a police officer.

#### 2.2. Choose the right translation of the passive constructions

- Highway 15 was closed yesterday due to a serious road accident.  
a) зачыняць; b) зачынiлi; c) зачынiаюць.
- Many cars are made in Japan.  
a) вырабляюцца; b) зрабiаць; c) вырабляе.
- I am being sent to work in the London office.  
a) быў адпраўлены; b) адправiўся; c) адпраўляюць.
- John was invited to speak at the conference.  
a) запрашае; b) запрашаюць; c) быў запрошаны.

5. All the employees had been hired before the store opened.  
a) наймаюць; b) нанялі; c) наймаць.
6. The car will have been loaded by the time he gets home.  
a) загрузіцца; b) загрузаць; c) будзе загрузана.
7. The document is being sent right now.  
a) дасланы; b) дасылаецца; c) дашле.
8. The contract will be signed tomorrow.  
a) падпішуць; b) будзе падпісаны; c) падпісваюць.
9. Their car was being washed while they were in the shopping mall.  
a) мыецца; b) мылі; c) памыюць.
10. That start-up has been sold for \$5 million.  
a) прадалі; b) прадаюць; c) прадацца.

### 2.3. Put the verbs in brackets into the correct passive form.

- After the earthquake, aid \_\_\_\_\_ to the people of Haiti. (sent)
- The electricity was cut off because the bill \_\_\_\_\_. (not pay)
- Penicillin \_\_\_\_\_ by Alexander Fleming in 1928. (discover)
- Statements \_\_\_\_\_ from all the witnesses at this moment. (take)
- Both weddings \_\_\_\_\_ by Good Taste. (cater)
- A Picasso \_\_\_\_\_ from the Metropolitan Museum of Art. (steal)
- \_\_\_\_\_ this washing machine \_\_\_\_\_ in Germany? (make)
- Tea \_\_\_\_\_ in China. (grow)
- When we reached the airport, we found that all the flights \_\_\_\_\_ due to the storm. (cancel)
- The fax \_\_\_\_\_ until tomorrow morning. (not send)
- The soundtrack of a movie \_\_\_\_\_ always \_\_\_\_\_ after the filming is finished. (is/add)

## 3. Word Study

### 3.1. Study your active vocabulary.

Central Processor Unit (CPU)	цэнтральны працэсар	центральный процессор
ribbon cable	стужачны кабель	ленточный кабель
floppy drive	накапляльнік на гнуткіх магнітных дысках	накопитель на гибких магнитных дисках
hard drive/ hard disk	цвёрды дыск	жесткий диск
CD/DVD Drive	дыскавод	дисковод
USB Port	порт універсальнай паслядоўнай шыны	порт универсальной последовательной шины
graphics card	відэакарта (графічная карта)	видеокарта (графическая карта)
fetch step	ступень выбаркі інфармацыі	стадия выборки информации
decode step	ступень дэкадзіравання	стадия декодирования
execute step	ступень выканання загадаў	стадия исполнения команд
writeback step	выдаванне вынікаў выкананых працэсарам загадаў	выдача результатов выполненных процессором команд
socket	эл. разетка; раз'ём	эл. розетка; разъём

memory slot	слот модуля пам'яці	слот модуля памяти
chipset	набор мікрасхем	набор микросхем
interface	частка праграмы, якая ўзаімадзеінічае з карыстальнікам	часть программы, взаимодействующая с пользователем
peripheral bus	перыферыйнаа шына	периферийная шина
non-volatile memory	энерганезалежная пам'яць	энергонезависимая память
firmware	убудаваанае ПЗ	встроенное ПО
digital data	цыфравыя дадзеныя	цифровые данные
clock generator	генератар сінхра-імпульсаў (тактавы генератар)	генератор синхрои импульсов (тактовый генератор)
PS/2 connector	6-штыровы раз'ём PS/2	6-штырьковый разъём PS/2
disc drive	дыскавод	дисковод
desktop	настольны кампутар	настольный компьютер
performance speed/ operation speed	хуткасць апрацоўкі інфармацыі	скорость обработки информации
laptop	невялікі партатыўны кампутар	небольшой портативный компьютер
terabyte (TB)	тэрабайт	тэрабайт
delay line	лінія затрымкі	линия задержки
random access memory (RAM)	аператыўная запаміналь-ная прылада (АЗП)	оперативное запоминающее устройство (ОЗУ)
read-only memory (ROM)	сталая запамінальная прылада (СЗП)	постоянное запоминающее устройство (ПЗУ)
bootstrap	пампаваць	загружать
liquid-crystal display (LCD)	вадкакрысталічны дысплей	жидкокристаллический дисплей
key matrix	клавiатурная матрыца	клавиатурная матрица
processing unit	працэсар	процессор
processor cache	кэш-пам'яць працэсара	кэш-память процессора

### 3.2. Read these international words and try to guess their meaning

Peripherals, a computer, visual, a system, a monitor, a printer, magnetic, a microcomputer, a card, information, a display, television, a processor, a computer program.

### 3.3. Give three forms of the following verbs and revise their meaning

To estimate, to facilitate, to perform, to compare, to retain, to process, to execute, to install, to provide, to record, to store, to encode, to display.

### 3.4. Match the words with their definitions

1) screenshot	a) a set of commands which are stored on a chip rather than as part of a program because the computer uses them very often.
2) computer storage	b) a magnetic data storage device
3) monitor	c) a piece of stiff paper that was used to contain digital information in old computers
4) software	d) a visual display unit
5) punch card	e) a set of programs
6) firmware	f) the main printed circuit board found in general purpose microcomputers and other expandable systems.
7) magnetic drum	g) a collection of integrated circuits which are designed to function together

	as a unit, especially to perform a particular task within a computer system
8) chipset	h) a digital image of what should be visible on a monitor, television, or other visual output device
9) motherboard	i) a technology consisting of computer components and recording media that are used to keep digital data

### 3.5. Open the brackets and put the right form of the verb.

1. Similar in operation to desktop computers, laptop computers (are being miniaturized/are miniaturized/had been miniaturized) for mobile use.
2. Information system (implements/is being implemented/is implemented) within an organization for the purpose of improving the effectiveness and efficiency of the organization.
3. When the users' hands and sensory organs (engage/are engaged/have been engaged) in other activities, wearable computers are of great help in tracking human actions.
4. During the writeback step the CPU (is written back/writes back/has been written back) the results of execution to the computer's memory.
5. Computer users (are providing/will be provided/are provided) with quick access to large amounts of data by a computer hard disc.

## 4. Reading Practice

### 4.1. While reading the text find the sentences where the Passive Voice is used.

#### What are the Main Parts of a Computer?

A computer is a complex machine that is capable of performing huge computations at an extraordinary speed. Its processing power is often compared to that of the human brain. Although human intellect is the undoubted winner in this competition, the capabilities of a computer cannot be underestimated. This complex machine, influenced from the design of a human brain, mainly consists of a processing unit, an arithmetic/logic unit, computer storage, and input and output devices along with its peripherals. All the parts make the whole system. So, let's take a look at the major parts of a computer.

*Central Processing Unit (CPU):* Also known as the computer processor, the CPU is an electronic circuit that executes computer programs. The primary responsibility of a computer processor is to execute a sequential set of instructions that constitute a program. CPU operation can be divided into four basic steps, namely, fetch, decode, execute, and write back. During the *fetch step*, the processor retrieves program instructions from memory. In the *decode step*, the instruction is broken down into parts. The instruction set architecture of the CPU defines the way in which an instruction is decoded. In the *execute step*, CPU performs the operation implied by the program instruction. During the *writeback step* the CPU writes back the results of execution to the computer's memory.

*Motherboard:* A computer motherboard consists of *sockets* in which microprocessors are installed, *memory slots*, a chipset that acts as an interface between the CPU bus and the peripheral buses (a bus connects all the internal parts of a computer), *non-volatile memory chips* housing the system's firmware and a *clock generator*, which helps in the synchronization of various system components. Some

motherboards also include logic and connectors to support input devices like PS/2 connectors for a mouse and keyboard.

*Hard Disc:* A hard disc is described as a part of the computer - which stores data and provides computer users with quick access to large amounts of data. A hard disc is an electromagnetically charged surface or a set of discs that record data in concentric circles known as tracks. It is a non-volatile storage device that stores digitally encoded data. The hard discs of desktops are generally capable of storing 120 GB to 2 TB of data. Laptop hard disc drives are smaller and have lower data storage capacities.

*Computer Memory:* It refers to those components of a computer, which retain digital data. It forms the core of a computer and makes up the basic computer model in collaboration with the CPU. Magnetic drums and delay lines used as primary storage by computers of the early days, have metamorphosed into a miniature silicon chip, which can achieve efficient storage of large volumes of data. Random Access Memory, popularly known as RAM, is a small-sized light and volatile form of computer memory. It is capable of temporary storage of data. Registers located in a computer processor are the fastest forms of computer storage. The most frequently used information is duplicated in the processor cache of a computer, thereby improving its performance. Computers require a non-volatile primary storage to read large programs. This non-volatile memory is known as ROM or Read-only memory. It also contains the startup programs used for bootstrapping a computer. Secondary storage media such as flash memory, magnetic tape, punch cards – are also a part of computer memory.

*Monitor:* A visual display unit, as it is called, is an electrical equipment that displays images generated by the video output device of a computer. Modern computer monitors use LCD or even plasma screens. The display provides computer users with an instant feedback in the form of text and graphic images. Monitors are the most-used output devices of a computer.

*Keyboard:* A keyboard is regarded as an input device for a computer. With respect to the arrangement of keys, a computer keyboard is similar to a typewriter. The keys or buttons act as electronic switches with characters printed on them, with each keypress corresponding to a written symbol. A keyboard has its own processor and circuitry, which consists of a key matrix, which helps bring about the keyboard operation.

*Mouse:* A computer mouse is a pointing device that detects two-dimensional motion. Apple's Macintosh was the first successful mouse-driven computer. A mouse translates the motion of your hand into signals that a computer can recognize and respond to. There are three basic types of mice, namely, mechanical, opto-mechanical, and optical. Mechanical mice have a rubber or metal ball that can roll in all directions. Mechanical sensors in the mouse detect the direction of motion of the ball. Opto-mechanical mice differ from mechanical mice, in that they use optical sensors to detect motion. Optical mice, popularly used today, have a laser to detect movement of the mouse. They do not have mechanical moving parts and possess higher performance speeds.

## **5. Comrehension Check**

### **5.1. Translate the following words and word combinations into your native Language. Try to memorize them.**

1) a set of commands; 2) a visual display unit; 3) circuit board; 4) circuitry; 5) concentric circles; 6) digital information; 7) digitally encoded data; 8) video output; 9) even plasma screen; 10) firmware; 11) instant feedback; 12) integrated circuit; 13) key matrix; 14) optical sensor; 15) performance speed; 16) primary storage; 17) processing power; 18) processing unit; 19) punched card; 20) secondary storage media; 21) storing device; 22) two-dimensional motion.

### **5.2. State whether the statements are true or false. Correct if necessary**

1. A keyboard is regarded as an output device.
2. There are four basic types of mice.
3. Monitors are seldom used as output devices of a computer.
4. Magnetic drums are used for processing information.
5. A hard disc is an electromagnetically charged surface or set of discs that record data in concentric circles known as tracks.
6. Some motherboards have logic and connectors to support input devices like PS/2 connectors.
7. Mechanical mice, popularly used today, have a laser to detect movement of the mouse.
8. CPU operation can be divided into three basic steps.
9. The processing power of a computer is equal to that of a human brain.
10. Hard disk is a non-volatile storage device that stores digitally encoded data.

### **5.3. Answer the following questions to the text**

1. What are the main parts of a computer?
2. What is a monitor used for?
3. What other output devices do you know?
4. What parts does a computer motherboard consist of?
5. Monitor is a visual display unit, isn't it?
6. RAM is a volatile form of computer memory, isn't it? How does it operate?
7. How do the buttons of a keyboard work?
8. Was Lenovo the first successful mouse-driven computer? What another modern computer brands do you know?
9. How does a mechanical mouse work?
10. How many stages can CPU operation be divided into? Describe all of them in detail.

### **5.4. Continue the phrases.**

1. Monitors are the most-used ... .
2. A complex machine known as a computer mainly consists of ... .
3. CPU operation can be divided into four basic steps, namely, ... .
4. Random Access Memory is a small-sized light ... .

5. Under an electrical equipment displaying images generated by the video output of a computer, it's easy to recognize ... .
6. A non-volatile primary storage required by computers to read large programs is known as ... .
7. A computer keyboard is similar to ... .
8. A pointing device that detects two-dimensional motion has three basic types such as ... .
9. Mechanical sensors in the mechanical mouse detect ... .
10. As far as Opto-mechanical mice use optical sensors to detect motion, they differ from ... .

### **5.5. Insert the missing words.**

1. The display provides computer users with ... in the form of text and graphic images.
2. During ... the processor retrieves program instructions from memory.
3. A keyboard is regarded as ... for a computer.
4. The keyboard buttons act as ... with characters printed on them.
5. A hard disc ... in concentric circles known as tracks.
6. Due to its ... a computer is often compared to the human brain's power.
7. A mouse ... the motion of your hand into ... that a computer can recognize and respond to.
8. ... is a small-sized light and volatile form of computer memory.
9. A clock generator helps in the ... of various system components.
10. ... is an electronic circuit that executes computer programs.
11. ... house the system's firmware.
12. A hard disc is described as a part of the computer disc drive, which ... data and provides computer users with ... to large amounts of data.
13. ... contains the startup programs used for bootstrapping a computer.
14. Computers require ... to read large programs.
15. ... possess high performance speeds, but they do not have mechanical moving parts.

## **6. Conversational Practice**

### **1.1. Read the dialogue "Computers in our life"**

Jim: What's the most important part of the computer?

Paul: The most important part of your computer isn't the hard disk or the monitor or the printer. The most important part is the data you use.

Jim: Why?

Paul: It's the only part of your computer that can't be replaced. If you didn't make a back-up copy of it - and something bad happens to your computer - you will never see your data again.

Jim: I should buy a back-up tape drive.

Paul: That's a very good idea.

### **1.2. Role-play the dialogue with your partner on analogy. Use set expressions and phrases given below:**



a) frankly speaking; b) as far as I know; c) for sure; d) right you are.

### 6.3 Look at the picture and say what these units are used for



## 7. Progress Test

### 7.1. Open the brackets and put the verbs into the correct Tense Form.

1. The escaped prisoner (see) at the airport yesterday.
2. The injured man (take) to hospital after the crash.
3. The program (sell) before it was tested.
4. The photographs (publish) in the local newspaper next week.
5. Innovations (include) in a new IT last year.
6. The software (design) by a programmer by 4 p.m.yesterday.
7. New design of an opto-mechanical mouse (disapprove) by a chief engineer today.
8. Invitations (send) out three weeks before the event.
9. The accident (cause) by a driver using a mobile phone.
10. The announcement about the conference (hear) by everyone.

### 7.2. Choose the right preposition

To be capable ... performing huge computations ... an extraordinary speed; to be compared ... a human brain; the winner ... the competition; the capabilities ... a computer; to be influenced ... the design ... a human brain; a computer motherboard consists ... sockets; to take a look ... the major parts of a computer; the responsibility ... a computer processor; the set ... instructions; to be divided ... four basic steps; to be implied ... the program instruction; to write back the results ... the computer's memory; a connector ... a mouse and keyboard; to record data ... concentric circles; the motion ... your hand; basic types ... mice; to roll ... all directions; to differ ... the mechanical mice; to use sensors ... detect motion.

### **7.3. Choose the right variant to complete the sentences**

1. *A computer is a complex machine that*

- a) is the most valuable part of our life;
- b) is capable of performing huge computations at an extraordinary speed;
- c) is capable of performing huge calculations at an extraordinary speed

2. *Although human intellect is the undoubted winner in this competition, the capabilities of a computer cannot be*

- a) underestimated;
- b) underemployed;
- c) underemphasize.

3. *All the computer parts make*

- a) the whole processing unit;
- b) the whole technological process;
- c) the whole system.

4. *CPU is an electronic circuit that*

- a) executes computer programs;
- b) exists computer programs;
- c) excavates computer programs.

5. *A computer motherboard consists of sockets, memory slots, non-volatile memory and*

- a) a clock generator;
- b) a hard disk;
- c) an analog system.

6. *A hard disc is an electromagnetically charged surface or set of discs that*

- a) record information in disks known as tracks;
- b) record data in motherboard known as tracks;
- c) record data in concentric circles known as tracks.

7. *Computer Memory refers to those components of a computer, which retain digital data*

- a) and form the core of a computer;
- b) and form the core of a storage device;
- c) and form the core of a motherboard.

8. *A hard disc is an electromagnetically charged surface or set of*

- a) discs;

b) concentric circles;

c) desktops.

9. *RAM is a small-sized light and*

a) non-volatile form of computer memory;

b) volatile form of software;

c) volatile form of computer memory.

10. *... is a pointing device that detects two-dimensional motion.*

a) A monitor;

b) A view port;

c) A computer mouse.

#### **7.4. Fill in the necessary articles**

I think each and every one of us must know about ... evolution of ... computers. It is one of ... most useful machines ever created by ... humans. ... invention of ... computer was just ... beginning of ... ever-increasing thirst for knowledge. I guess, even ... inventor of ... computer mustn't have realized ... potential that ... machine would have. Today, almost ... all of our work is done by ... computing machine. Computers are enhancing technological growth at ... rapid rate.

## Unit III. Types of Computers

### 1. Infinitive

See the table “Infinitive”. Study it carefully and then do an entry test.

	Active	Passive
<b>Indefinite</b>	<i>to write, to see</i> I am glad <b>to see</b> you	<i>to be written, to be installed</i> The engine <b>to be installed</b> in this car is very powerful.
<b>Continuous</b>	<i>to be writing, to be improving</i> The weather <b>seems to be improving</b>	-
<b>Perfect</b>	<i>to have written, to have finished</i> He seems <b>to have finished</b> his work.	<i>to have been written, to have been constructed</i> The power plant is said <b>to have been constructed</b> in 1983
<b>Perfect Continuous</b>	<i>to have been writing, to have been working</i> He is known <b>to have been working</b> on this problem for many years.	-

Look for extra information about Infinitive here:

<http://www.perfect-english-grammar.com/gerunds-and-infinitives.html>

### 2. Entry Test

#### 2.1. Define the forms of the Infinitive in the following sentences

1. I want to see the design of your project.
2. It can be done by our laboratory assistant.
3. The mistake must be found in new software.
4. We knew him to be working at the report.
5. They are likely to be being served now.
6. I remember to have seen her somewhere in the University.
7. We thought the mistake to have been found.
8. He must have been working all night, because he looks very tired.
9. She appeared to have been leading a very busy life before.
10. It's good to have finished the work for the day.
11. I'm sorry not to have come on Friday.
12. I didn't expect to be invited to the conference.

#### 2.2. State the functions of the Infinitive in the sentences

1. To travel hopefully is the better thing.  
a) subject; b) part of predicate; c) object.
2. The problem was to get there in time.  
a) subject; b) part of predicate; c) object.
3. Our duty is to help this man.  
a) attribute; b) object; c) part of predicate.
4. He began to read this story yesterday.  
a) adverbial modifier of purpose; b) subject; b) part of predicate.
5. He can't utter a word.  
a) attribute; b) object; c) part of predicate.
6. He wanted to read this book.

a) attribute; b) object; c) part of predicate.

7. She was the first to come.

a) subject; b) part of predicate; c) attribute.

8. We shall have no possibility to go there.

a) attribute; b) object; c) part of predicate.

9. He stopped there (in order) to rest a little.

a) object; b) adverbial modifier of purpose; c) subject.

10. The road to connect these two towns is being built.

a) object; b) part of predicate; c) attribute.

11. Here is the letter to be sent at once.

a) attribute; b) object; c) part of predicate.

12. You must work hard to master English.

a) attribute; b) object; c) adverbial modifier of purpose.

13. There was only one house to live in.

a) object; b) attribute; c) adverbial modifier of purpose.

14. He is well enough to continue this way.

a) adverbial modifier of result; b) adverbial modifier of purpose; c) object.

15. There is no chance to get tickets for this concert.

a) subject; b) object; b) attribute.

16. He has come to see you.

a) part of predicate; b) adverbial modifier of result; c) adverbial modifier of purpose.

### 2.3. Replace the subordinate clauses by infinitives in various functions

*Model: A: The child is very proud that he pressed the button in the lift.*

*B: The child is very proud to have pressed the button in the lift.*

1. I am proud that I have completed this work by the 1<sup>st</sup> of June.

2. We are glad that we have seen this game.

3. There is a lift in the house which takes us to the upper stories.

4. She said she was sorry that she had missed you.

5. I'm sorry that I didn't come on Friday.

6. We have a comfortable bed in which you can sleep.

7. He bought some beautiful pictures which he would hang in his study

8. Ann was surprised when she heard Peter's voice.

### 2.4. Insert an active or a passive infinitive from the list below

*(to invite, to use, to praise, to bother)*

1. She was delighted ... to the party.

2. She was delighted ... her friends to the party.

3. I hate ... you but I can't move the table alone.

4. The room ... as a nursery should be warm enough.

5. His intention is ... this room as a nursery.

6. She hated ... with questions concerning the cost of her furniture.

7. She was anxious for us ... her taste in decorating the flat.

8. Her taste in furnishing the room should ... .

### 3. Word Study

#### 3.1. Study your active vocabulary

analog signal	аналагавы сігнал	аналоговый сигнал
digital circuit	цыфравы сігнал	цифровая схема
bit	біт (адзінка аб'ёму інфармацыі)	бит (единица объёма информации)
bulk data transfer	суцэльная перадача дадзеных	сплошная передача данных
bulk data	вялікі масіў дадзеных	большой массив данных
desktop computer	настольны камп'ютар	настольный компьютер
laptop	невялікі партатыўны камп'ютар	небольшой портативный компьютер
netbook	нэтбук	нетбук
Personal Digital Assistant (PDAs):	персанальны цыфравы сакратар	персональный цифровой секретарь
palmtop	кішэнны камп'ютар	карманный компьютер
wearable computer	пераносны камп'ютар	переносной компьютер
tablet	планшэт	планшет
stylus marker	маркіровачная прылада	маркировочное устройство

#### 3.2. Read these international words and try to guess their meaning

An analog signal, a server, a microcomputer, a microprocessor, a battery, a smartphone, a transistor, quantum physics, mechanics, a molecular theory.

#### 3.2. Give three forms of the following verbs and revise their meaning

To shrink, to consume, to require, to develop, to substitute, to fit, to supplement, to vary, to continue, to provide, to break, to invent, to buy.

#### 3.4. Match the words with their definitions

1. analog signal	a) an electric circuit based on a number of discrete voltage levels
2. digital circuit	b) a lot of information
3. bit	c) a device that can provide electrical energy
4. bulk data	d) a unit that can be used instead of broken one
5. Wi-Fi	e) a central computer of the whole system
6. minicomputer	f) a minimum information unit
7. spare part	g) a computer of medium power, more than a microcomputer but less than a mainframe
8. server	h) a type of communication without cables
9. computer	i) a small pen-shaped instrument that is used to input commands to a computer screen, mobile device or graphics tablet
10. network	j) any continuous signal for which the time varying feature (variable) of the signal is a representation of some other time varying quantity, i.e. analogous to another time varying signal
11. power supply unit	k) a chain of a number of computers
12. stylus pen	l)
13.	

### 4. Reading Practice

4.1. While reading the text find the sentences where infinitive is used and state its functions.

#### Different Types of Computers You Ought to Know About

A computer is one of the most brilliant inventions of mankind. Thanks to computer technology, we have been able to achieve storage and processing of huge

amounts of data. We can rest our brains by employing computer memory capacities for information storage. Owing to computers, we have been able to achieve higher processing speeds, carry out critical transactions and that too with great precision and accuracy.

Computers of the earlier times were of the size of a large room and required to consume huge amounts of electric power. However, with the advancing technology, computers have shrunk to the size of a small watch.

Depending on their processing powers, size and area of use, they have been classified into various types. Based on the operational principle, computers can be classified as analog, digital and hybrid.

Analog Computers: These computers are almost extinct today. They are different from a digital computer because an analog computer can perform several mathematical operations simultaneously. It uses continuous variables for mathematical operations and utilizes mechanical or electrical energy.

Digital Computers: They use digital circuits and are designed to operate on two states, namely bits 0 and 1. Data on these computers is represented as a series of 0s and 1s. Digital computers are suitable for complex computation and have higher processing speeds. They are programmable. Digital computers are either general purpose computers or special purpose ones. Special purpose computers, as their name suggests, are designed for specific types of data processing while general purpose computers are meant for general use.

Hybrid Computers: These computers are a combination of both digital and analog computers. In this type of computers, the digital segments perform process control by conversion of analog signals to digital ones.

Based on their processing powers, computers can be categorized as mainframe and microcomputers.

Mainframe Computers: Large organizations use mainframes for highly critical applications such as bulk data processing and ERP. Most of the mainframe computers have capacities to host multiple operating systems and operate as a number of virtual machines. They can substitute for several small servers.

Microcomputers: A computer with a microprocessor and its central processing unit is known as a microcomputer. They do not occupy space as much as mainframes do. When supplemented with a keyboard and a mouse, microcomputers can be called personal computers. A monitor, a keyboard and other similar input-output devices, computer memory in the form of RAM and a power supply unit come packaged in a microcomputer. These computers can fit on desks or tables and prove to be the best choice for single-user tasks.

Based on the usage, they can be grouped under desktop computers, laptops, tablets, netbooks, personal digital assistants (PDAs) and even tiny wearable ones.

Desktop Computers: A desktop computer is intended to be used on a single location. The spare parts of a desktop computer are readily available at relatively lower costs. Power consumption is not as critical as that in laptops. Desktop computers are widely popular for daily use in the workplace and households.

Laptops: Similar in operation to desktop computers, laptop computers are miniaturized and optimized for mobile use. Laptops run on a single battery or an external adapter that charges the computer batteries. They have an inbuilt keyboard, touch pad acting as a mouse and a liquid crystal display. Their portability and capacity

to operate on battery power have proven to be of great help to mobile users.

Netbooks: They fall in the category of laptops, but are inexpensive and relatively smaller in size. They had a smaller feature set and lesser capacities in comparison to regular laptops, at the time they came into the market. But with passing time, netbooks too began featuring almost everything that notebooks had.

Personal Digital Assistants (PDAs): It is a handheld computer and popularly known as a palmtop. It has a touch screen and a memory card for storage of data. PDAs can also be used as portable audio players, web browsers and smartphones. Most of them can access the Internet by means of Bluetooth or Wi-Fi communication.

Minicomputers: In terms of size and processing capacity, mini-computers lie in between mainframes and microcomputers. Minicomputers are also called mid-range systems or workstations. The term began to be popularly used in the 1960s to refer to relatively smaller third generation computers. They took up the space that would be needed for a refrigerator or two and used transistor and core memory technologies. The 12-bit PDP-8 minicomputer of the Digital Equipment Corporation was the first successful minicomputer.

Servers: They are computers designed to provide services to client machines in a computer network. They have larger storage capacities and powerful processors. Running on them are programs that serve client requests and allocate resources like memory and time to client machines. Usually they are very large in size, as they have large processors and many hard drives. They are designed to be fail-safe and resistant to crash.

Supercomputers: The highly calculation-intensive tasks can be effectively performed by means of supercomputers. Quantum physics, mechanics, weather forecasting, molecular theory are best studied by means of supercomputers. Their ability of parallel processing and their well-designed memory hierarchy give the supercomputers, large transaction processing powers.

Wearable Computers: A record-setting step in the evolution of computers was the creation of wearable computers. These computers can be worn on the body and are often used in the study of behavior modeling and human health. Military and health professionals have incorporated wearable computers into their daily routine, as a part of such studies. When the users' hands and sensory organs are engaged in other activities, wearable computers are of great help in tracking human actions. Wearable computers do not have to be turned on and off and remain in operation without user intervention.

Tablets: Tablets are mobile computers that are very handy to use. They use the touch screen technology. Tablets come with an on-screen keyboard or use a stylus or a digital pen. Apple's iPad redefined the class of tablets.

## **5. Comrehension Check**

### **5.1. Translate the following words and word combinations into your native Language. Try to memorize them.**

Analog signal, bulk data transfer, computation, continuous variable, conversion of analog signals to digital ones, core memory technology, desktop computer, digital circuit, fail-safe, stylus marker, feature set, handy to use, hard drive, information storage, liquid crystal display, palmtop, parallel processing, power supply unit, processing of huge amounts of data, information storage, processing power, stylus,



tablet, to carry out critical transactions, wearable computer, with great precision and accuracy.

**5.2. Say if the sentences are true or false. Give the right variant if the sentence is false.**

1. A computer is one of the most brilliant inventions of Apple.
2. We can rest our brains by employing computer memory capacities for information storage.
3. Computers of the earlier times were of the size of a large room and required to consume huge amounts of software.
- 4 Depending on their processing powers, size and area of use, computers have been classified into various types.
5. Based on the structure of hardware, computers can be classified as analog, digital and hybrid.
6. Analog computer uses continuous variables for mathematical operations and utilizes mechanical or electrical energy.
7. Hybrid Computers are the computers that can be supplied by a charged battery.
8. Mainframe computers can substitute for several small servers.
9. Microcomputers occupy less space than mainframes.
10. Based on the usage, computers can be grouped under desktop computers, laptops, tablets, netbooks, personal digital assistants (PDAs) and even tiny wearable ones.

**5.3. Answer the following questions to the text**

1. Do the most of the mainframe computers have capacities to host multiple operating systems and operate as a number of virtual machines?
2. What are microcomputers?
3. What are desktop computers widely popular for?
4. What computers are similar in operation to laptops?
5. How many batteries does a laptop need?
6. Personal Digital Assistants are handheld computers and they are popularly known as laptops, aren't they?
7. Does an analog computer have a touch screen?
8. What does PDA have for data storage?
9. What computers are called workstations?
10. The 36-bit PDP-8 minicomputer of the Digital Equipment Corporation was the first successful minicomputer, wasn't it?
11. What are supercomputers used for?
12. What computers have the ability of parallel processing?
13. Where can wearable computers be used?
14. Do tablets have an on-screen keyboard?

**5.4. Insert the missing words.**

1. Depending on ... , computers have been classified into various types.

2. Digital computers are not only suitable for complex computation and have ... , they are also ... .
3. While general purpose computers are meant for general use, ... are designed for specific types of data processing.
4. In ... Computers the process control is performed by conversion of analog signals to digital ones.
5. ... can substitute for several small servers.
6. In comparison to mainframes ... do not occupy the same amount of space.
7. ... come packaged in a microcomputer.
8. Desktop computers don't consume as much power as ... , that run on a single battery.
9. The ability of ... to operate on battery power has proven to be of great help to mobile users.
- 10.... has a touch screen and a memory card for storage of data.
- 11.... are designed to be fail-safe and resistant to crash.
- 12.Their ability of parallel processing and their well-designed memory hierarchy give the ... large transaction processing powers.

### **5.5. Continue the phrases.**

1. As far as an analog computer can perform several mathematical operations simultaneously it differs greatly from ... .
2. In Hybrid Computers the process control is performed by ... .
3. Since mainframe computers have capacities to host multiple operating systems and operate as a number of virtual machines they can be used by large organizations for ... .
4. Those computers that in terms of size and processing capacity lie in between mainframes and microcomputers are also called ... .
5. To study behavior modeling and human health only Wearable Computers are often used, because only they can ... without user intervention.
6. Computers of the earlier times were not only of the size of a large room, but they required to consume ... .
7. On the assumption of the operational principle, computers can be classified as ...
8. Computers can be called personal only when they are ... .

## **6. Conversational Practice**

### **6.1. Make comparisons of the following storage devices. Use patterns “as...as” and “so...as”.**

Model:

10 ZIP Disks can store as much information as 1.6 CD ROMs can.

One ZIP Disk can store not so much information as one CD ROM can

To store 1000 MB requires...



10 ZIP Disks (100 MB)



781 Text-Only Books



694 Floppy Disks (1.44 MB)



1.6 CD ROMs (640 MB)



3.1 Hard Drives (320 MB)

## 7. Progress Test

### 7.1. Complete the sentences

1. He seems (здае зараз іспыты).
2. The professor expects (скончыць тэарэтычны курс да заканчэння семестра).
3. I have nothing (распавесці пра станоўчыя рысы мікракамп'ютэраў).
4. 4. (Дзеля здабыцця адпаведнай інфармацыі) you should go to the library.
5. 5. She expected (што ёй будзе аказана дапамога).
6. 6. (Ён быў апошнім) to come.
7. 7. I am glad (дапамагчы цябе).

### 7.2. Translate into English

1. Дзеля выкарыстання найноўшых тэхналогій Вы павінны павялічваць колькасць ведаў.
2. Праблема надта складаная, каб яе вырашыць.
3. Здаецца, прафесар зараз тлумачыць розніцу паміж аналагавым ды гібрыдным абсталяваннем.
4. Я не памятаю, каб ты распавёў мне аб гэтым.
5. Спадзяюся, што мяне запрасяць удзельнічаць у гэтым праекце.
6. Каб выкрыць асноўныя ўласцівасці дадзенага метала мы зрабілі шэраг вопытаў у лабараторыі.

7. Студэнт зрабіў выгляд, што не пачуў пытання выкладчыка.

### 7.3. Fill in the necessary prepositions

One ... the most brilliant inventions ... mankind; thanks ... computer technology; processing ... huge amounts ... data; memory capacities ... information storage; owing ... computers; to shrink ... the size ... a small watch; depending ... processing power; to classify ... various types; to be based ... the operational principle; to be different ... smth; to be designed ... operate ... two states; to be represented ... a series of 0s and 1s; to be suitable ... complex computation; to perform process control ... conversion of analog signals ... digital ones; to use mainframes ... highly critical applications; a computer ... a microprocessor; to be the best choice ... single-user tasks; to be available ... relatively lower costs; to be popular ... daily use ... the workplace and households.

### 7.4. Fill in the necessary articles

Charles Babbage was ... English polymath. Considered by some to be ... “father of the computer”, Babbage is credited with the invention ... first mechanical computer that eventually led to ... complex electronic design, though all ... essential ideas of modern computers are to be found in ... Babbage’s analytical engine. His varied work in other fields has led him to be described as “pre-eminent” among ... many polymaths of ... century. Parts of ... Babbage’s incomplete mechanisms are on ... display in ... Science Museum in ... London. In 1991 ... functioning difference engine was constructed from ... Babbage’s original plans.

## Unit IV. Types of Computer Software

### 1. The ing Form of English Verbs

There are three main uses of *the ing* form in English grammar:

#### 1. Continuous tenses

I am fishing. (*present continuous tense*)

He was fishing. (*past continuous*)

We will be fishing. (*future continuous*)

#### 2. As an adjective

For certain verbs, the *-ing* form is in fact a present participle and is used exactly like an adjective. When used like this, the *-ing* adjective expresses the source or cause of a feeling or emotion.

The book is very *interesting*.

The horror film was very *frightening*.

#### 3. As a gerund

A gerund is a non-finite form of the verb with some noun features. It is formed by adding the suffix *-ing* to the stem of the verb. The gerund can be used as the subject of the sentence or the object of the sentence.

*Fishing* is my favourite hobby. - (Gerund *fishing* is acting as a noun. Here it is the subject of the sentence. The main verb is the verb “to be”.)

I like *fishing*. - (*Fishing* is acting as a noun. Here it is the object of the verb “like”.)

There was nothing to be seen or heard, not even a *barking* dog. – (Gerund *barking* is in the function of an attribute. It expresses an action which is performed by the dog.)

He continued to speak *while walking* down the path. – (Gerund *walking* serves as an adverbial modifier of the verb “to speak”.)

### 2. Entry Test

#### 2.1 Fill in the Gerund or the Infinitive in the following sentences

1. I hate the idea ... old.

a) of getting; b) to get.

2. The thought ... never entered his head.

a) of failing; b) to fail.

3. She is very good ... problems.

a) to solve; b) at solving.

4. I am tired ... to advice.

a) to listen; b) of listening.

5. A strimmer is a machine ... grass and weeds.

a) to cut; b) for cutting.

6. I must find something ... that fly.

a) to kill; b) for killing.

7. I am proud ... won.

a) of having; b) to have.

8. You can't make an omelette without ... eggs.

a) breaking; b) to break.

9. I look forward to ... from you.

a) hearing; b) hear.

10. I am not used to ... in London.

a) drive; b) driving.

## 2.2 Match parts of the sentences

1.Learning	a) marathon needs lots of training
2.Telling	b) through the forest is a good way to relax
3.Swimming	c) plenty of fresh fruit and vegetables is essential for good health
4.Giving up	d) young children is a very rewarding career
5.Writing	e) the truth is always the best policy
6.Running	f) your ideas down is a good way to clarify them
7.Walking	g) is my favorite sport
8.Eating	h) a new language is very hard work
9.Teaching	i) smoking requires great will power
10.Buying	j) on line is very easy and safe now

## 2.3. Put in *to + infinitive* or *-ing form* to complete the conversation

Matthew: Are we (go) to have

a holiday this year?

Natasha: Didn't we all decide (spend) our holidays on a Greek island?

Matthew: Lovely. I enjoy (lie) on the beach. I might manage (get) a suntan.

Daniel: I'd love a holiday. I can't wait (leave) this place behind.

Emma: I don't fancy (stay) in one place all the time. I really dislike (sit) on the beach all day.

Natasha: Well, I don't mind (tour) around somewhere.

Emma: Matthew, you promised (go) to Scotland with me. We were planning (hire) a car.

Matthew: Scotland? Are you sure? But I couldn't face (drive) all the time.

Jessica: I'm afraid I can't afford (spend) too much money.

Andrew: And I can't justify (take) all that time off from my studies.

## 1. Word Study

### 1.1. Study your active vocabulary

Application Software	прыкладныя праграмы	прикладные программы
System Software	сістэмнае праграмнае забеспячэнне (ПЗ)	системное программное обеспечение (ПО)
Programming Software	ПЗ для праграміравання	ПО для программирования
Freeware	ПЗ для вольнага распаўсюджвання	свободно распространяемое ПО
Shareware	умоўна-безкаштоўнае ПЗ	условно-бесплатное ПО
Registry Cleaners	маніпулятар сістэмнага рээстра	манипулятор системного реестра
Content Control Software	ПЗ для кантралявання зместу інфармацыі	ПО для контроля содержания информации
Project Management (Software)	ПЗ кіравання праектамі	ПО управления проектами
Utility Software	службовая праграма, службовае праграмнае забеспячэнне	служебная программа, служебное программное обеспечение (ПО)
Open Source Software	ПЗ з адкрытымі зыходнымі кодамі	ПО с открытыми исходными кодами
Browser	праграма хуткаснага прагляду (інфармацыі)	программа ускоренного просмотра (информации)

### 3.2 Give three forms of the following verbs and revise their meaning.

To categorize, to install, to coordinate, to have, to apply, to function, to run, to expire, to put, to prompt, to purchase, to restrict, to schedule, to get, to allocate, to alter, to decrypt, to debug, to surf.

### 3.3 Match the words with their definitions.

1. environment	a) language for writing software
2. Microsoft Windows	b) to make an action impossible
3. computer program	c) a person who explores a new or unfamiliar area
4. to surf	d) to make an action possible
5. to allow	e) the physical and biological factors along with their chemical interactions that affect an organism or a group of organisms
6. explorer	f) the time for testing smth.
7. to clog	g) to move from one Internet page to another
8. trial period	h) a set of instructions written in special artificial language
9. programming language	i) the most famous software in the world

### 3.4. Translate the following words and word combinations into your native Language. Try to memorize them.

A software package, to distribute on a trial basis, computer hardware, a storage medium, computer's registry gets clogged, educational software, violation of laws, set of instructions, language editor, invalid registry entries, programming software, source code, System Software, to download music from the Internet, to install software, to schedule network with other users, pin pattern, to speed up the computer, to surf / to browse the Internet, to work on a project simultaneously, device driver, types of software, tally stick, internal wiring, media development software, language editor, development software.

### 3. Reading Practice

#### 4.1 While reading the text find the sentences where - ing form is used. Define their functions

#### A List of Different Types of Computer Software

A *software* is a collection of programs that help one communicate with the hardware of the computer. There are different types of computer software which are useful for several purposes. In learning about computers, the first step usually is to understand the major types of software, their use, and application. Here we present a list of computer software and their examples, categorized according to their different types.

*System Software:* System software coordinates the complete system hardware and provides an environment or platform for all the other types of software to work in. It is the most basic type of software in any computer system, which is essential for other programs, applications and indeed for the whole computer system to function. System software examples are Microsoft Windows XP, Mac OS, Linux, Windows Vista, Ubuntu, device drivers, etc.

*Application Software:* Application software comprises those programs that help the user perform the tasks of his/her choice. They are non-essential software which are installed and run depending upon the requirements, in the environment provided by the system software. Application software examples are MS Office, Open Office, Media Players, MS Access, educational software, media development software, Antivirus software, etc.

*Programming Software:* Programming software is used to write, test, debug and develop other software programs and applications. The various programming language editors such as Eclipse and a Java language editor come under this category. They are used for creating both the system as well as application software. Programming software examples are Turbo C, Xilinx, Kiel, Integrated Development Environment (IDE), etc.

Apart from the mentioned above major types of software, there are many other sub-types such as the ones mentioned below.

*Freeware:* Freeware is a type of software that anyone can download from the Internet and use for free. There are Google Talk, Yahoo Messenger, uTorrent, etc.

*Shareware:* Shareware is usually distributed for free on a trial basis. It can be shared without violation of any laws. The user purchases the full version when the trial period expires. The examples of it are Bear Share, Kazaa, Winzip, etc.

*Registry Cleaners:* When you install a lot of software, games, etc., your computer's registry gets clogged. Registry cleaners are used to clean up or delete all the invalid registry entries which has the benefit of speeding up your computer. The Examples are Tune Up, Utilities, Eusing, etc.

*Content Control Software:* This software allows you to control the content that can be accessed by a user on a computer. This set of instructions is mostly used for restricting access over the Internet. Some of them are K9 Web Protection, PGSurfer, etc.

*Project Management Software:* As its name suggests, project management software is a software package that helps multiple users to work on a project simultaneously. It allows them to schedule events, network with other users, allocate resources, etc. Microsoft Office Project Server and Hyper Office are the most popular.

*Utility Software:* It is usually made up of small programs that help in the management of the hardware and the application of software, installed on a computer. Disk defragmenters and Disk cleaners are two examples of it.

*Open Source Software:* This is a type of software the source code for which is available to all users (open). As such, anyone can make changes to it and release their own new version. The most widely used is Android OS.

*Browsers:* Browsers are software that let you surf or browse the Internet. They are Internet Explorer, Safari, Mozilla Firefox, etc.



With constant advancements in the field of software engineering, several new software and applications are being developed every day. Therefore, the list provided above shouldn't be considered definitive, as in the coming years, many more newer types of software will have been developed.

#### **4. Comprehension check**

##### **4.1. Insert the missing words.**

1. As it is the most basic type of software in any computer system, ... is essential for other programs, applications and indeed for the whole computer system to function.
2. The ... is considered non-essential, because the programs included into this software are installed and run depending upon the requirements, provided in the environment by the system software.
3. The various ... editors are used for creating both the system as well as application software.
4. On a probation period ... is usually distributed for free.
5. When ... are installed in your computer, your computer's registry ... .
6. Thanks to ... multiple users are able not only to work on a project simultaneously, but can schedule events and network with other users.
7. As the source code for ... is available to all users, essentially anyone can make changes to it and release their own new version.

##### **4.2. Continue the phrases to make up sentences.**

1. To understand the peculiarities of computers, the first step you should do is to understand ... .
2. The programs that help the users perform the tasks of their choice are parts of ... .
3. To clean up or delete all the invalid registry entries which can help to speed up your computer it's necessary to use ... .
4. The programs that permit you to control the content that can be accessed by a user on a computer are usually comprised by ... .
5. Small programs that help in the management of the hardware and the application software, installed on a computer are included into ... .
6. The list of computer software types shouldn't be considered definitive, because with constant advancements in the field of software engineering ... .

##### **4.3. Answer the following questions.**

1. What is a software?
2. There are different types of computer software which are useful for several purposes, aren't there?
3. What type of software coordinates the complete system hardware and provides an environment or platform for all the other types of software to work in? Give the examples of it.
4. What is an application software used for?
5. Is MS Office an application software?
6. Programming software is used to write, test, debug and develop other software

programs, isn't it?

7. What sub-types of software do you know?

8. What is a Java language used for?

9. Can anyone download Freeware from the Internet?

10. Content Control Software is usually used for playing computer games, isn't it?

11. In what way can Browsers help us?

12. What software do you use in your everyday life?

## 5. Conversational Practice

**6.1. Look through the table to have a clear distinction between application and system software. Role-play the dialogue with your partner using the information from the table.**

System Software	Application Software
The system software helps in operating the computer hardware, and provides a platform for running the application software.	The Application software helps the user in performing single or multiple related computing tasks.
The System software executes in a self-created environment.	The Application software executes in the environment created by the system software.
It executes continuously as long as the computer system is running.	It executes as and when the user requires.
The programming of the system software is complex, requiring the knowledge of the working of the underlying hardware.	The programming of the application software is relatively easier, and requires only the knowledge of the underlying system software.
There are much fewer software systems as compared to application software.	There are many more software applications as compared to system software.
The System software runs in the background and the users typically do not interact with it.	The application software runs in the foreground, and the users interact with it frequently for all their computing needs.
The System software can function independent of the application software.	The application software depends on the system software and cannot run without it.
Examples: Windows OS, BIOS, device firmware, Mac OS X, Linux etc.	Examples: Windows Media Player, Adobe Photoshop, World of Warcraft (game), iTunes, MySQL etc.

## 6. Conversational Practice

### 7.1 Match word combinations to make the sentence

- |                        |                                |
|------------------------|--------------------------------|
| 1. She is interested   | a) drinking alcohol.           |
| 2. I would like        | b) to seeing my daughter.      |
| 3. You should give up  | c) being ill.                  |
| 4. We really enjoy     | d) laughing at her.            |
| 5. I'm looking forward | e) to living in a dirty house. |
| 6. He is used          | f) talking to drunk people.    |
| 7. She pretended       | g) swimming in the sea.        |
| 8. Pamela is good      | h) to have a cup of coffee.    |
| 9. I couldn't help     | i) in surfing the Internet.    |
| 10. She avoids         | j) at riding a horse.          |

### 7.2. Choose the Infinitive with / without to

1. We can (speak/to speak) Spanish.
2. He often makes me (feel/to feel) guilty.
3. You have (be/to be) friendly and polite.
4. She must (stay/to stay).
5. The lawyer will (call/to call) you later.
6. I'd like (send/to send) him a present.
7. You'd better (move/to move) faster.
8. We heard somebody (enter/to enter) the apartment.
9. Mother wants (paint/to paint) the walls in the kitchen.
10. We decided (sell/to sell) the car.
11. He always fails (keep/to keep) his word.
12. I am trying (lift/to lift) this heavy stone.
13. Let me (give/to give) you some advice.
14. It may (cost/to cost) too much.
15. She saw him (cross/to cross) the street.

### 7.3. Fill in the right article



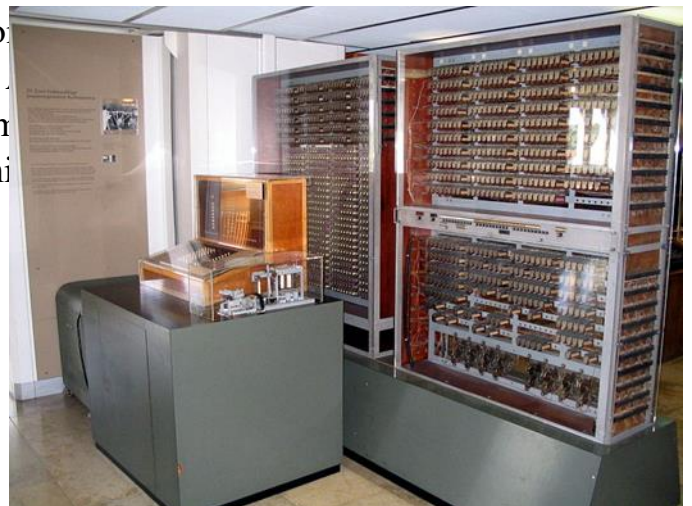
#### History of computing hardware

Devices have been used to aid computation for thousands of years, probably initially in ... form of ... tally stick. ... Antikythera mechanism, dating from about ... beginning of ... first century BC, is generally considered to be ... earliest known mechanical analog ... computer, and ... earliest known geared mechanism.

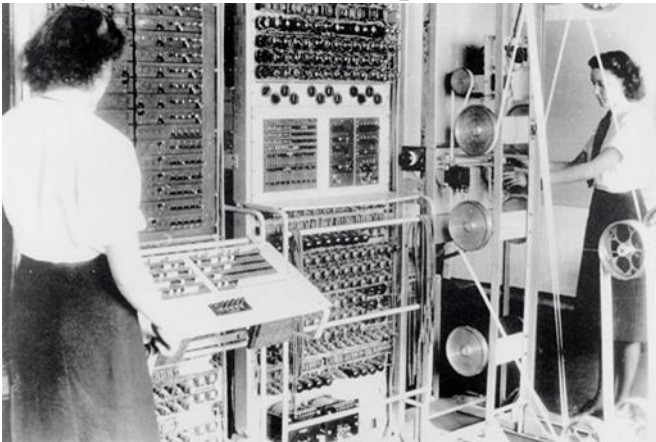
... Antikythera mechanism is ... ancient Greek analogue computer. Comparable geared devices did not emerge in Europe until ... 16th century and it was not until 1645 that ... first mechanical calculator capable of performing ... four basic arithmetical operations was developed.

Electronic computers, using either relays or valves, began to appear in ... early 1940s. ... electromechanical Zuse Z3, completed in 1941, was ... world's first programmable computer, and by modern standards one of ... first machines that could be considered ... complete computing machine. Now Zuse Z3 is situated at Deutsches Museum in Munich.

Colossus, developed during ... Second World War was ... first electronic digital computer. ... general-purpose, being designed to perform ... to store its program in memory. Programming ... to alter ... internal wiring. Now Zuse Z3 is



... Colossus Mark II computer was operated by ... two persons. ... slanted control panel on ... left was used to set ... pin patterns. .... punched tape was used as ... storage medium in ... computer.



... development of transistors in ... late 1940s at Bell Laboratories allowed ... new generation of computers to be designed with greatly reduced power consumption. ... first recognizable modern electronic digital stored-program computer was Manchester Small-Scale Experimental Machine (SSEM) which ran ... its first program on 21 June 1948.

... first commercially available stored-program computer, Ferranti Mark I, contained 4050 valves and had ... power consumption of 25 kilowatts. By comparison ... first transistorized computer, developed at ... University of Manchester and operational by November 1953, consumed only 150 watts in ... its final version.

Notes:

a tally stick – лічильная палачка/ счётная палочка

the pin patterns – кнопкавая панэль кіравання/ кнопчная панэль управлення

a punched tape – перфастужка/ перфолента

a storage medium – носьбіт дадзеных/ носитель данных

#### 7.4. Make up an abstract of the text according to the following plan.

##### 1. The Title

I've read the text entitled...

##### 2. The Source

This is an article (story, text) published in the newspaper (magazine, book) ...

##### 3. The Author

The author of the text is ..., a famous writer (journalist, scientist).

The article is written by ...

##### 4. The main Idea of the Text / the Problem discussed in the Message

*The purpose* (aim, objective) of this article (text, story) is to show / to prove / to underline (to give the readers some information on ...); The text is *devoted to* ...; *The main points discussed* in the text are ...

##### 5. The Content

The text *can be divided into* ... parts

The text (story, article) *starts with* the fact (with the description of, with the characteristic of) ...

*Then / further / besides* the author describes (dwells on, explains, mentions, points out, comments on, reports that)...

*After that* the author touches upon the problem of ... (provides the reader with some information on ...)

*Next* the author deals with the fact (the problem)... (the 2<sup>nd</sup> / 3<sup>rd</sup> / 4<sup>th</sup> part of the text is devoted to ...)

*Later* we learn about ... (*According to the text, ...*)

*Besides* the author stresses that ... (The author emphasizes the fact that ...)

*Finally* the author comes to the conclusion that ... (In conclusion the author sums up by saying that ... / We can conclude that ...)

### **6. Your Attitude**

My attitude to the article (story, text) is contradictory (complicated, simple).

On the one hand, I agree that...

On the other hand, I can't agree that ...

I've learned a lot of valuable (important, new) facts (information, things) from the text, that help us to understand ...

It makes us think of...

It gives us food for thoughts.

It proves the idea (the theory, the point of view, the opinion) ...

It can help us in self-education (in solving our problems).

I find the article interesting. / I consider the article important.

### **7. Your Advice**

So in my opinion this text (the article) is (not) worth reading...

## Unit V. Microsoft Operating Systems

### 1. Modal Verbs

**Modals are different from normal verbs:**

1. They do not denote actions or states. They only show the attitude of the speaker towards the action expressed by the infinitive. Modals may show that the action/state/process/quality is viewed by the speaker as possible, obligatory, doubtful, certain, permissible, advisable, requested, prohibited, etc.
2. They **never change their form**. They don't use 's' for the third person singular (Mary **can** speak English quite well). You can't add '**ing**' or '**ed**', because Modals have (except for can and may) only one form and no past tense (*must* turns to *had to*, *must not* – *was/were not allowed to*). All Modals have no future tense.
3. They need **no auxiliary** to build up the interrogative and negative forms ('she can go' becomes '*can she go?*'; 'must + not' becomes '*must not*' or '*mustn't*'; 'can + not' becomes '*cannot*' or '*can't*').
4. They are followed directly by the infinitive of another verb **without 'to'** (except for *ought to*, *to be to*, *to have to*).
5. Sometimes modal verbs can also be followed by a **perfect infinitive**, which refers the action to the past (*It must have been raining all the night. There are big puddles in the garden.*)

**Probability (*can, could, must, may* – due to circumstances):**

First, Modals can be used when we want to say how sure we are that something happened / is happening / will happen. We often call them 'modals of conclusion' or 'supposition', or 'certainty', or 'probability'. Modals in combination with *the Perfect infinitive* refer the action to the past.

For example:

- It's snowing, so it *must* be very cold outside (probably it is cold).
- I don't know where John is. He *could have missed* the train.
- This bill *can't be* right. £200 for two cups of coffee!
- In this museum you *may see* some interesting things.

**Physical or Mental Ability (*can / could, to be able to = to manage, to succeed in ... ing*):**

We use '**can**' and '**could**' to talk about someone's skill and general abilities. But usually we use '**to be able to**' to talk about possibility due to circumstances or an ability related to a single event or an incident.

For example:

- She *can speak* six languages.
- My grandfather *could play* golf very well.
- We *can't use* the indefinite article with this noun.
- After climbing for several hours, we *were able to get* to the top of the mountain.
- I *was able to surprise* my teacher yesterday.

**Willingness, Likelihood (*will, would*):**

We use '*will*' when we talk about willingness to do something and '*will not*' ('*won't*'), '*would not*' when we talk about unwillingness to do something.

For example:

- The key *won't fit* the lock.
- She *wouldn't say* what was wrong when I asked.

To talk about general or repeated willingness *in the past* we can use 'would'.

For example:

- Whenever I had to go to town, Ron *would give* me a lift. (= repeated)

We can use 'will' (for the present) and 'would' (for the past) to talk about characteristic behavior or habits.

For example:

- Every day Dan *will come* home from work and *turn on* the TV.
- She *will leave* all the lights on in the house when she goes out.

### **Habits, Used to (will, would):**

If we want to talk about things that happened repeatedly *in the past, but don't happen now*, we can use 'would' or 'used to + infinitive'.

For example:

- We *would/used to* lend him money when he was unemployed.
- When I lived in Italy, we *would often eat* in the cafe next to my flat.

### **Obligation (must, have to):**

'Have to' and 'must' are both used to express a moral or legal duty to do something. 'Have to' shows that the obligation or necessity come from someone else or arise out of circumstances, not the speaker. This is usually referring to a rule or law. 'Must' shows us that the obligation comes from the speaker.

For example:

- My doctor said that I *have to stop* smoking or I'll risk serious problems. (I have no choice)
- I *must stop* smoking. (it's my decision)
- We *have to be* at the airport at least two hours before the flight.
- I *have to work* on Saturday.
- I *must hand* in my thesis by tomorrow.
- I really *must call* my parents.

### **Necessity (need):**

If we want to say that something is unnecessary, we use **need not**.

For example:

- You *needn't spend* a lot of money on presents.
- I *needn't buy* tomatoes. There are plenty of tomatoes in the fridge.

### **Moral Obligation and Advice (should, ought to):**

We use 'should' and 'ought to' to express advice or make recommendations.

For example:

- You *should eat* less fat if you want to lose weight.
- You *ought to relax* if you don't want to get ill.
- You *shouldn't be* rude to anybody.
- You *oughtn't to tell* lies.

### **Permission (can, could and may):**

We can use verbs such as 'can', 'could' and 'may' to ask for and give permission.

For example:

- *Could I leave* early today, please? (**could** is more formal and polite than **can**)
- *Can we swim* in the lake?
- *May we go home* now? (**may** is a more formal and polite way of asking for permission)
- The director is alone now so you *may* see him now.

**Prohibition (*may not, mustn't, don't have to, can't*):**

We also use modal verbs to say something is not allowed. The action is prohibited either according to a law or a rule or because the speaker forbids it. Both ***can't*** and ***mustn't*** are used to show that something is prohibited – it is not allowed.

*Can't do something* ==> it's necessary not to do it, because it's against the rules.

*Mustn't do something* ==> it's necessary not to do it. It's a rule, a norm or warning of a bad outcome. A strong obligation comes from the person who is speaking.

*Don't have to do something* ==> you don't need to do it but if you want, you can. The action is possible and optional, but not obligatory.

*May not do something* ==> you are not permitted to do something. It's authoritative denying of permission.

For example:

- You *don't have to* tell me everything. You *don't have to* donate money to charity, but it is a good thing to do.
- Fire is dangerous. You *mustn't play* with it. Cars *must not be parked* in front of this gate. You *mustn't watch* so much television.
- You *may not enter* the room until I say so.
- You *can't cross* the street here.

**Order, Possibility, Plan or Obligation** due to the previous Arrangement, Agreement, due to some Rules, Laws, Regulations (**to be to**)<sup>1</sup>:

We use '***be to + infinitive***' when discussing formal or official arrangements or to give formal instructions or orders. The '***be to + infinitive***' structure is also frequently used in newspaper, radio and television reports to refer to future events. It expresses near certainty that what is forecast will happen.

For example:

- The Prime Minister *is to make* a further visit to Devon next week.
- We *are to complete* this work by tomorrow. (Somebody expects it.)
- You *are not to leave* this house without my permission. Is that clear?
- The man *is to appear* in court later this morning, as he is charged with the murder of the footballer, Darren Gough.
- Work *is to begin* this week on the new bridge across the Nile north of Aswan.

## 2. Entry Test

**2.1. Put in 'can', 'can't', 'could' or 'couldn't'. If none of these is possible, use 'be able to' in the correct tense.**

1. ...you swim when you were 10?
2. We ... get to the meeting on time yesterday, because the train was delayed by one hour.

<sup>1</sup> <http://www.bbc.co.uk/worldservice/learningenglish/grammar/learnit/learnitv103.shtml>



3. He ... arrive at the party on time, even after missing the train, so he was very pleased.
4. He's amazing, he ... speak five languages, including Chinese.
5. I ... drive a car until I was 34. Then I moved to the countryside, so I had to learn.
6. I looked everywhere for my glasses but I ... find them anywhere.
7. I searched for your house for ages, luckily I ... find it in the end.
8. She's seven years old, but she ... read yet. Her parents are getting her extra lessons.
9. I read the book three times, but I ... understand it.
10. James ... speak Japanese when he lived in Japan, but he's forgotten most of it now.
11. I ... understand the chapter we had to read for homework. It was so difficult.
12. I ... lift this box - it's too heavy! Would you help me?
13. Lucy ... make it to our meeting after all. She's been stuck in a traffic jam.
14. John ... play tennis really well. He's champion of his club.

## **2.2. Put in 'mustn't' or 'don't / doesn't have to'.**

1. We'll have a lot of work tomorrow. You ... be late.
2. You ... tell anyone what I just told you. It's a secret.
3. The museum is free. You ... pay to get in.
4. Children ... tell lies. It's very naughty.
5. John's a millionaire. He ... go to work.
6. I ... do my washing because my mother does it for me.
7. We ... rush. We've got plenty of time.
8. You ... smoke inside the school.
9. You can borrow my new dress, but you ... get it dirty.
10. We ... miss the train, because it's the last one tonight.
11. She ... do this work today, because she can do it tomorrow.
12. I ... clean the floor today because I cleaned it yesterday.
13. We ... forget to lock all the doors before we leave.
14. We ... stay in a hotel in London; we can stay with my brother.

## **2.3. Put in 'must + infinitive' or 'must + have + past participle'.**

1. Alex always does really well on exams. He ... (study) a lot.
2. That woman drives a very expensive car. She ... (have) a lot of money.
3. You ... (practise) a lot before you gave your speech. It was really good.
4. When Lizzie got home yesterday there were flowers on the table. Her husband ... (buy) them.
5. Where is my purse? I saw it earlier, so it ... (be) in this room.
6. Sarah couldn't find her glasses. She thought she ... (leave) them at her office.
7. It ... (be) cold outside. That man in the street is wearing a coat.
8. All my plants ... (be) dead! I forgot to water them before I went on holiday.
9. Susie is so late! She ... (miss) the train!
10. There's rubbish all over my garden! A fox ... (be) in the bin.
11. Anna has a huge library in her house. She ... (love) books.
12. Oh no, I don't have my keys! I ... (leave) them in the taxi.
13. When Lucy got home, she found the ice cream had melted. It ... (be) too hot in the car.
14. If you haven't eaten all day, you ... (be) hungry.

## 2.4. Make the correct past modal form (use *could* / *must* / *should* + *have* + *past participle*).

1. I ... (buy) bread but I didn't know we needed it. (past possibility)
2. We ... (invite) so many people to our party! I'm worried that we won't have enough room for everyone. (past negative advice / regret)
3. I ... (start) saving money years ago! (past advice / regret)
4. We ... (join) you at the restaurant, but we couldn't get a babysitter. (past willingness)
5. The weather ... (be) any worse! (past negative possibility)
6. I ... (arrive) on time, even if I'd left earlier. There were dreadful traffic jams all the way. (past negative possibility)
7. They ... (win) the football match, but John hurt his ankle. (past possibility)
8. Amanda ... (finish) the work, but she felt ill and had to go home. (past willingness)
9. Lucy ... (leave) earlier. She missed her flight. (past advice / regret)
10. We ... (finish) the game, even if we'd wanted to. It was raining very hard and we had to stop. (past negative possibility)
11. I ... (eat) so much chocolate! I feel sick! (regret)
12. Luke ... (pass) the exam if he'd studied more. (past possibility)
13. John ... (call) Amy, but he didn't have her number. (past willingness)
14. You ... (be) rude to him. He's going to be really angry now. (past negative advice / regret)

## 1. Word Study

### 3.1. Study your active vocabulary

ongoing knowledge	веды, якія ёсць у дадзены момант	имеющиеся на данный момент знания
feature testing	праверка наяўнасці азначанай функцыянальнай магчымасці	проверка наличия конкретной функциональной возможности
desktop system	праграмныя сродкі для настольных сістэм	программные средства для настольных систем
touchscreen monitor	манітор з сэнсарным экранам	монитор с сенсорным экраном
Start menu	спіс каманд, якія выводзяцца праграмай на экран	список команд, выводимый программой на экран
bookmarking	усталяванне закладкі дзеля далейшага шуткага шматразовага доступу	установка закладки для последующего быстрого многократного доступа
file	Файл, масіў дадзеных у камп'ютары	файл, массив данных в компьютере
desktop	працоўны стол на экране камп'ютара	рабочий стол на экране компьютера
task menu	панэль задач	панель задач
program icon / icon	знак з выявай праграмы	знак с изображением программы
desktop file	файл працоўнай зоны	файл рабочей области
launching point	пускаявая кропка	пусковая точка
sub-menu	падпарадкаванае меню	подчинённое меню
virtual desktop	віртуальны працоўны стол	виртуальный рабочий стол

vista	архітектура віртуальних інтелектуальних систем захоування дaдзeних	архитектура виртуальных интеллектуальных систем хранения данных
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### 3.2. Give three forms of the following verbs and revise their meaning

To launch, to fail, to encompass, to break, to handle, to distribute, to expand, to transplant, to navigate, to give.

### 3.3. Match the words with their definitions

1.operating system	a)the program that helps a user to communicate with computer
2.screenshot	b)the place where you keep the files
3.ongoing updates	c)to start
4.to launch	d)the adding of new information without interruption
5.to click	e) software that is used for your PC
6.to update	f)a set of loaded application software
7.submenu	g)an image of the display on a computer screen
8.folder	h)to add new information
9.settings	i)to touch a computer mouse
10.user interface	j)a menu accessed from a more general menu

## 3. Reading Practice

### 4.1. While reading the text find the sentences with modal verbs and say what are they used for

#### Windows 10

Nowadays the most popular system software is Windows 10. It's a personal computer operating system developed and released by Microsoft as part of the Windows NT family of operating systems. It was released on July 29<sup>th</sup>, 2015. It is the first version of Windows that receives ongoing updates.

The Windows user interface was revised to handle transitions between a mouse-oriented interface and a touchscreen monitor. The Start menu is a user interface element used in Microsoft Windows since Windows 95 and in some other operating systems. It provides a central launching point for computer programs and performing other tasks.

Traditionally, the Start menu provided a customizable list of programs for the user to launch, as well as a list of most recently opened documents, a way to find files and get help, and access to the system settings. Later enhancements via Windows Desktop Update included access to special folders like "My Documents" and "Favorites" (browser bookmarks). Windows XP's Start menu was expanded to encompass various My Documents folders (including My Music and My Pictures), and other items like My Computer and My Network Places were transplanted from the Windows desktop.

Until Windows Vista, the Start menu was constantly expanded across the screen as the user navigated through its cascading sub-menus.

The first release of Windows 10 also introduces a virtual desktop system, a window and desktop management feature called Task View, the Microsoft Edge web browser, support for fingerprint and face recognition login. Previous Windows versions have program icons that can be opened by mouse clicking. After that a task menu opens. But now a user can operate with the help of his / her fingers.

#### **4. Comprehension Check**

##### **4.1. Complete the sentences**

1. Windows is a personal computer operating system developed ... .
2. The Windows user interface was revised ... .
3. The Start menu is ... .
4. The Start menu provides ... .
5. Traditionally, the Start menu provided ... .
6. Later enhancements via Windows Desktop Update included... .
7. Windows XP's Start menu was expanded to ... .
8. Previous Windows versions have program icons that ... .

##### **4.2. Answer the following questions**

1. What company developed Windows 10?
2. What kind of software is it?
3. Windows 10 can't receive ongoing updates, can it?
4. When did the first version of the software appear?
5. How does Windows user interface operate?
6. When did Microsoft begin to use Start menu?
7. What did Start menu traditionally provide?
8. What special folders do you usually use?

#### **5. Conversational Practice**

##### **6.1. Read the dialogue “Buying a computer” and complete it**

*Assistant:* Morning! Do you need any help?

*Paul:* Um, yes, we're looking for a Mac computer. Have you got any fairly basic ones?

*Assistant:* Yes, sure. If you'd like to come over here.

*Paul:* What different models are there?

*Assistant:* At the moment we've got these two models: the iMac, which is a desktop computer with an Intel Core 2 Duo processor operating at 2.33 gigahertz, and the portable MacBook, which has a processor running at 2.0 gigahertz. Core Duo technology actually means two cores, or processors, built into a single chip, offering up to twice the speed of a traditional chip.

*Sue:* So they're both very fast, then. And which one has more memory? I mean, which has more RAM?

*Assistant:* Well, the iMac has two gigabytes of RAM, which can be expanded up to three gigabytes, and the MacBook has one gigabyte, expandable to two gigabytes. It all depends on your needs. The iMac is suitable for home users and small offices. The MacBook is more practical if you travel a lot.

*Paul:* What about the prices of them?

*Assistant:*

*Sue:*

*Paul:*

##### **6.2. Role-play the dialogue with your partner on analogy. Use set expressions and phrases given below**

Sure..., that would be great ..., let me check ..., I've never heard of it..., that's nothing to do with it ..., that's news to me ... .

## 2. Listening Comprehension

### 7.1 Match the words with their definitions

a) Desktop:	1) A directory that holds data, programs and other folders.
b) Window:	2) A horizontal or vertical bar that is clicked and dragged in the desired direction.
c) Icon:	3) A list of options that appears below a menu item when selected.
d) Folder:	4) A picture representing an object; for example, a document, program, folder or hard drive icon.
e) Menu bar:	5) A row of words that open up menus when selected.
f) Drop-down (pull-down menu):	6) A scrollable viewing area on screen; it can contain files or folders.
g) Scroll bar:	7) Set of icons at the bottom of the screen that give you access to the things you use most.
h) Dock:	8) The background screen that displays icons and folders.

### 7.2 Language work: countable and uncountable nouns.

**Look at the HELP BOX and decide if these nouns are countable, uncountable or either, depending on the context. Write C, U, or C and U.**

User \_\_\_\_\_; Email \_\_\_\_\_; Computing \_\_\_\_\_; Edition \_\_\_\_\_; Entertainment \_\_\_\_\_; Interface \_\_\_\_\_; Icon \_\_\_\_\_; Technology \_\_\_\_\_; Security \_\_\_\_\_; Spyware \_\_\_\_\_.

#### HELP BOX

Countable and uncountable nouns

Countable nouns are people or things that we can count. They have a singular and a plural form (e.g. file, program, system, application).

Uncountable nouns are things that we can't count. They have no plural form (e.g. software, music, robotics, multimedia, networking, storage.)

*A lot of software these days is open-source.*

NOT: *A lot of softwares these days are open-source.*

Some words are countable in many languages but uncountable in English, and are used with a singular verb (e.g. advice, damage, equipment, furniture, research, news, progress, homework)

*The advice he gave me was very useful.*

Countable nouns must have a determiner (a, the, my, this, etc.) in the singular, although this is not necessary in the plural.

*I deleted the file yesterday.*

*I lost more than 300 files when my computer crashed.*

We use a before a consonant sound and an before a vowel. The definite article the means you know which one/ones I mean.

*An icon is a small graphic.*

*The icons on the toolbar are used to...*

We don't use a/an with uncountable nouns..

Not: ~~a robotics~~

We don't use the in generalizations with uncountable nouns or plural countable nouns.

*I like music.*

Not: *I like the music.*

*Computer programs are expensive.*

Not: *The computer programs are expensive.*

Countable and uncountable nouns take different determiners.

Many, few, a few only go with countable nouns.

*There are many versions of Windows Vista.*

*Much, little, a little, a great deal of only go with uncountable nouns.*

*I have a little time free this afternoon if you want to meet.*

### 7.3 Language work: countable and uncountable nouns. Match English and Belarusian / Russian equivalents (some of them are colloquial).

1) Resting state of a PC, 2) charging port, 3) start accessories, 4) to paste, 5) the stuff of a PC, 6) to change background, 7) background picture boom, 8) weird settings

а) дадатковае абсталяванне для запуску / аксэсуары для запуску, б) непрацоўны стан ПК / становішча спакою ПК, в) устаўляць (дадзеныя) / вставлять, г) абсталяванне ПК / аснашчэнне ПК, д) змяніць фон на працоўным сталe / змяніць фон на рабочым сталe, е) з'яўленне фонавай выявы на экране / з'яўленне фонавай карцінкі на экране, ж) нязручныя параметры устаўляўкі / незручныя параметры наладкі, з) раз'ём для падлучэння дадатковага абсталявання / раз'ём для падключэння дадатковага абсталявання

### 7.4 Watch documentary “Mac Lovers Try Using PC” and answer the questions



1. What is the film about?
2. Are there four persons, who try a PC in the documentary? Describe them.
3. Is the name of the girl in a colorful dress Kate?
4. Do all of them use only MacWord operating system?
5. Candace says, that she has been a Mac person for almost 16 years, doesn't she?
6. Who used PC at school? What for?
7. What does Candace say finally?

### 7.5 Watch the documentary again and answer the following questions

1. All they say that Microsoft word is opened really quickly, don't they?
2. Why does the boy consider the charging port inappropriate?
3. What is their first impression about a PC?
4. Who asked “Why aren't there start accessories?”
5. In what way does the boy compare this Mac PC with App PC?
6. What does Candace say about a start button?
7. What do they do with the help of “ctrl C” button?
8. Why is it difficult for the boy to copy on this PC?
9. Who says “The commands look like kind. The interface has got a lot of options?”
10. What steps does the change background include?
11. Why would the boy choose Mac PC?
12. What was Candace's final opinion about a PC? What do the rest say?

### 7.6 Imagine yourself in the shop and make your own emotional dialogue

### 3. Progress Test

**8.1. Choose 'can', 'could' or 'be able to' (or negative forms) to complete these sentences. If two answers are possible write them both and underline the more likely one.**

1. Peter has a computer that ... fit into his jacket pocket.
2. I had some free time yesterday, so I ... write a few letters.
3. From where we're standing, this land belongs to me for as far as you ... see.
4. My teacher has given me a translation to do for homework, but I ... understand it.
5. Watch this, Mum, I ... stand on one leg.

6. 'When's Megan's birthday?' 'As far as I ... remember, it's in June.'
7. The plans were destroyed before they ... be read by the invading army.
8. Until you ... repay some of your present debt, we cannot lend you any more money.
9. 'The game ... be played by up to six people.' (*from the instructions for a board game*)
10. When I was younger I was hopeless at sports. I ... throw or kick a ball properly.

**8.2. Complete these sentences with a form of 'have to' or 'must' (whichever is more likely) + an appropriate verb.**

1. He's got a lung problem and he ... to hospital every two weeks.
2. You ... and visit us soon. It would be so nice to see you again.
3. That's really good news. I ... my friend, Steve.
4. I always sleep through the alarm clock. My Dad ... me every morning.
5. As I won't be at home tonight, I ... my homework during my lunch break.
6. 'Can we meet on Thursday morning?' 'Sorry, no. I ... to the dentist at 11.00.'
7. I'm feeling really unfit. I ... more exercise.

**8.3. Insert the necessary modal verbs.**

1. I ... not go to the theatre with them last night, I ... revise the grammar rules and the words for the test. 2. My friend lives a long way from his office and ... get up early. 3. All of us ... be in time for classes. 4. When my friend has his English, he ... stay at the office after work. He (not) ... stay at the office on Tuesday, Thursday and Saturday and ... get home early. 5. ... you ... work hard to do well in your English? 6. "... we discuss this question now?" "No, we ... We ... do it tomorrow afternoon." 7. I'm glad you ... come. 8. "... you ... come and have dinner with us tomorrow?" "I'd love to." 9. "Please send them this article." "Oh, ... I do it now?"

**8.4. Match the sentence beginnings and endings.**

- |                                     |  |
|-------------------------------------|--|
| 1. You mustn't drink alcohol        | A. to enjoy it.                                  |
| 2. You mustn't keep medicines       | B. when you go into a pub.                       |
| 3. You don't have to be a member    | C. if teachers object to the new curriculum.     |
| 4. You don't have to play golf well | D. to run up and down the aisle of the aircraft. |
| 5. Newspapers mustn't               | E. to use the tennis club.                       |
| 6. You don't have to drink alcohol  | F. when you drive.                               |
| 7. Newspapers don't have to say     | G. who provided their information.               |
| 8. Children mustn't be allowed      | H. where children can get them.                  |
| 9. You mustn't be surprised         | I. mislead the public.                           |

**8.5. Complete the gaps in this text on operating systems using these linking words and phrases**

- a) Although; b) Because; c) But; d) In addition to; e) Such as; f) Therefore.

The user is aware of the effects of different application programs ... operating systems are invisible to most users. They lie between applications programs, ... word processing, and the hardware. The supervisor program is the most important. It remains in memory, ... it is referred to as resident. Others are called non-resident ... they are loaded into memory only when needed. Operating systems manage the computer's

resources, ... the central processing unit. ... , they establish a user interface, and execute and provide services for applications software. ... input and output operations are invoked by applications programs, they are carried out by the operating system.

### **8.6. Fill in the right article**

#### OPERATING SYSTEMS: HIDDEN SOFTWARE

When ... brand new computer comes off ... factory assembly line, it can do nothing. ... hardware needs software to make it work. Are we talking about applications software such as word processing or spreadsheet software? Partly. But ... applications software package does not communicate directly with the hardware. Between ... applications software and ... hardware is ... software interface – ... operating system. ... operating system is ... set of programs that lies between applications software and ... computer hardware.

... most important program in ... operating system, ... program that manages ... operating system, is ... supervisor program, most of which remains in memory and is thus referred to as resident. ... supervisor controls ... entire operating system and loads into ... memory other operating system programs (called nonresident) from disk storage only as needed.

... operating system has three main functions: (1) manage ... computer's resources, such as ... central processing unit, memory, disk drives, and printers, (2) establish ... user interface, and (3) execute and provide services for applications software. Keep in ... mind, however, that much of ... work of ... operating system is hidden from ... user. In particular, ... first listed function, managing the computer's resources, is taken care of without ... user being aware of ... details.

Furthermore, all input and output operations, although invoked by ... applications program, are actually carried out by ... operating system.

### **8.7. Find the answers to these questions.**

- 1) What difference is there between applications software and operating systems?
- 2) Why is the supervisor program the most important operating system program?
- 3) What is the difference between resident and non-resident programs?
- 4) What are the main functions of an operating system?

### **8.8. Make up an abstract of the text according to the plan from Unit IV.**



## Unit VI. Windows Structural Elements

### 1. Conditionals

Sometimes we call *conditionals* 'if clauses'. They describe the result of something that might happen (in the present or future) or might have happened but didn't (in the past). They are made by using different English verb tenses.

There are four main kinds of conditionals:

#### **The Zero Conditional:**

If-clause	Main clause	The likelihood of action
Present Indefinite	Present Indefinite	100% - the result will always happen.
(if + Present Indefinite, ... Present Indefinite) <i>If you heat water to 100 degrees, it boils.</i> <i>You get water if you mix hydrogen and oxygen.</i>		

#### **The First Conditional (real possibility):**

If-clause	Main clause	The likelihood of action
Present Indefinite	Future Indefinite + infinitive without to	50-75% - we talk about things which might happen in the future.
(if + present indefinite, ... will + infinitive) <i>If it rains tomorrow, we'll go to the cinema.</i> <i>If I study today, I'll go to the party tonight.</i>		

#### **The Second Conditional (an imagined situation):**

If-clause	Main clause	The likelihood of action
Past Indefinite	would + infinitive without to	0% - we can use it to talk about things in the future that are probably not going to be true. We can use it to talk about something in the present which is impossible, because it's not true.
(if + past indefinite, ... would + infinitive) <i>If I had a lot of money, I would travel around the world.</i> <i>She would pass the exam if she ever studied. (She never studies, so this won't happen).</i> <i>If I had his number, I would call him. (I don't have his number now, so it's impossible for me to call him).</i> <i>If he (I, we, you, she, they) were here, he would help us.</i>		

#### **The Third Conditional (lost chances):**

If-clause	Main clause	The likelihood of action
Past Perfect	would (could, should, might) have + past participle	0% - We talk about the past. It's used to describe a situation that didn't happen, and to imagine the result of this situation.
(if + past perfect, ... would / could / should / might + have + past participle) <i>If I had gone to bed early, I would have caught the train.</i> <i>If I hadn't eaten so much, I wouldn't have felt sick (but I did eat a lot, and so I did feel sick).</i>		

## **2. Entry Test**

### **2.1 Make the zero conditional**

1. If I (wake up) late, I (be) late for work.
2. If my husband (cook), he (burn) the food.
3. If Julie (not/wear) a hat, she (get) a sunstroke.
4. If children (not/eat) well, they (not/be) healthy.
5. If you (mix) water and electricity, you (get) a shock.
6. If people (eat) too many sweets, they (get) fat.
7. If you (smoke) you (get) yellow fingers.
8. If children (play) outside, they (not/get) overweight.
9. If you (heat) ice, it (melt).
10. If I (speak) to John, he (get) annoyed.

### **2.2 Make the first conditional**

1. If I (go) out tonight, I (go) to the cinema.
2. If you (get) back late, I (be) angry.
3. If we (not/see) each other tomorrow, we (see) each other next week.
4. If he (come), I (be) surprised.
5. If we (wait) here, we (be) late.
6. If we (go) on holiday this summer, we (go) to Spain.
7. If the weather (not/improve), we (not/have) a picnic.
8. If I (not/go) to bed early, I (be) tired tomorrow.
9. If we (eat) all this cake, we (feel) sick.
10. If you (not/want) to go out, I (cook) dinner at home.

### **2.3 Make the second conditional**

1. If I (be) you, I (get) a new job.
2. If he (be) younger, he (travel) more.
3. If we (not/be) friends, I (be) angry with you.
4. If I (have) enough money, I (buy) a big house.
5. If she (not/be) always so late, she (be) promoted.
6. If we (win) the lottery, we (travel) the world.
7. If you (have) a better job, we (be) able to buy a new car.
8. If I (speak) perfect English, I (have) a good job.
9. If we (live) in Mexico, I (speak) Spanish.
10. If she (pass) the exam, she (be) able to enter the University.

### **2.4 Make the third conditional**

1. If you (not/be) late, we (not/miss) the bus.
2. If she (study), she (pass) the exam.
3. If we (arrive) earlier, we (see) John.
4. If they (go) to bed early, they (not/wake) up late.
5. If he (become) a musician, he (record) a CD.
6. If she (go) to art school, she (become) a painter.

7. If I (be) born in a different country, I (learn) to speak a different language.
8. If she (go) to university, she (study) French.
9. If we (not/go) to the party, we (not/meet) them.
10. If he (not/take) the job, he (go) travelling.

### **3. Word Study**

#### **3.1. Study your active vocabulary**

toolbar	панель інструментаў	панель инструментов
main menu	галоўнае меню, якое адлюстроўвае асноўныя функцыі праграмы	главное меню, отображающее основные функции программы
folder icon	піктаграма папкі	пиктограмма папки
progress window	акно, якое адлюстроўвае працэс загрузкі	окно, отображающее процесс загрузки
statistic window	акно, якое адлюстроўвае дадзеныя лічылніка	окно, отображающее данные счетчика
counter	лічылнік (апаратны рэгістр, які падлічвае колькасць паўтораў азначанай аперацыі)	счетчик (аппаратный регистр, показывающий количество повторов определенной операции)
folders window	акно, якое паказвае папкі карыстальніка	окно, отображающее папки пользователя
task toolbar	панель задач	панель задач
set attributes	файлаабменнік	файлообменник
file directory	каталог файлаў	каталог файлов
disk directory	каталог дыска	каталог диска
notification area	вобласць апавяшчэнняў	область уведомлений

#### **3.2. Read these international words and try to guess their meaning.**

Visual, an image, a function, a block, a column, individual, operating systems, a version, a graphical interface, an option, an icon, an element, a document, a video file, File System, a menu, a directory, a person, an instrument.

#### **3.3. Give three forms of the following verbs and revise their meaning.**

To click, to refer, to accelerate, to activate, to appear, to give, to hide, to house, to name, to prevent, to take, to put, to switch, to run, to come, to display, to correspond.

#### **3.4. Open the brackets to make conditionals.**

1. If all the functions of a program (to activate), a statistic window (to display) the whole information.
2. If each folder on your desktop (to have) its own folder icon I (can / to accelerate), functional images for our presentation yesterday.
3. If Apple operating systems (not / to be) so expensive I (to buy) it with pleasure.
4. If you (to click) these icons twice you (to switch) easily between programs while your last speech.
5. If the specific design and layout of the taskbar (to improve) this operating system (can / consider) as the best one.
6. If a notification area (to have) interactive icons it (to display) real-time information about the state of the computer system.

#### 4. Reading Practice

4.1. Before reading look through the names of the main elements that are given in the Screenshot of a Microsoft program. What tools and functions are familiar to you?

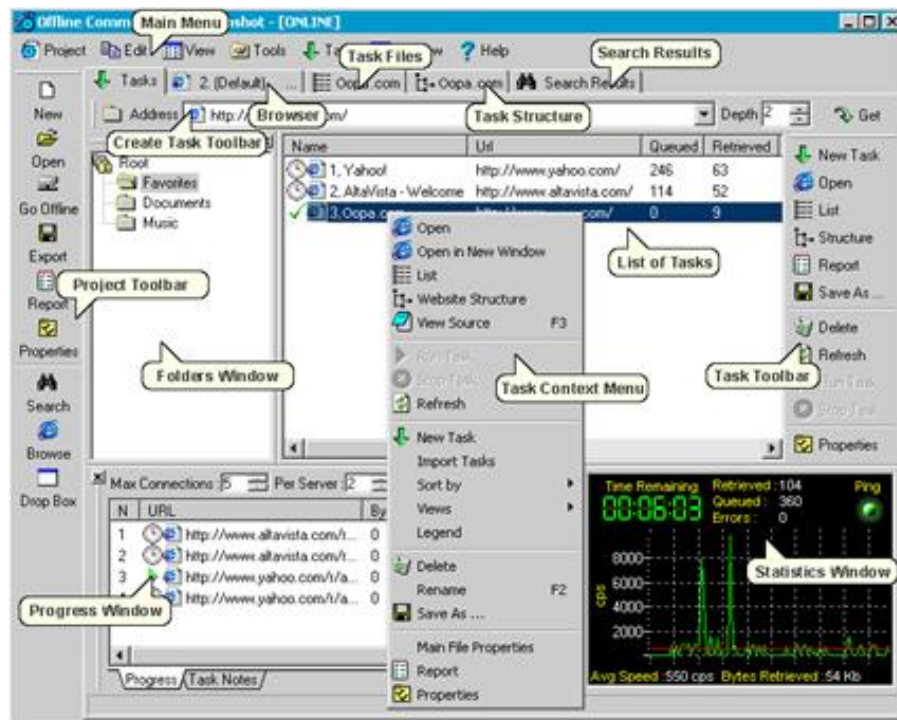
##### Microsoft Window's Structural Elements

*Main Menu:* It refers to the primary list of options available to the user at the computer. The main menu is the starting point. For example, the Start menu in Windows is the main menu.

*Folders Window:* It includes all users' folders. Each folder has its own *folder icon* that can be changed for the acceleration of searching procedure.

*Toolbar:* A row, column, or block of onscreen buttons or images is what a toolbar is. When a button or an image is clicked on a toolbar certain functions of the program are activated.

*Task Toolbar (Task Bar):* Task Toolbar (Task Bar) houses the programs which are open. A taskbar is an element of a graphical user interface which has various purposes. It typically shows which programs are currently running. The specific design and layout of the taskbar vary between individual operating systems, but generally assume the form of a long strip along one edge of the screen. On this strip there are various icons which correspond to the windows open within a program. Clicking these icons allows the user to easily switch between programs or windows with the currently active program or window usually appearing differently from the rest. In more recent versions of operating systems users can also "pin" programs or files so that they can be accessed quickly, often with a single click. Due to its prominence on the screen,



the taskbar usually also has a notification area, which uses interactive icons to display real-time information about the state of the computer system and some of the programs active on it. It also can be named "task list"

*Context menu for taskbar* hides the menus that appear when you right-click the

taskbar and items on the taskbar such as the start button, the clock, and the taskbar buttons. This policy does not prevent users from using other methods to issue the commands that appear on these menus.

*File:* Accumulated data stored in one unit under a filename is called a file. This data may include a picture, an audio or video file, a library, or an application. Text files include Word documents, Rich Text Format (RTF), and layered image files.

*File System Task (Task Files):* The File System task performs operations on files and directories in the file system. For example, by using the File System task, a user can create, move, or delete directories and files. You can also use the File System task to set attributes on files and directories. For example, the File System task can make files hidden or read-only.

*Progress Window:* If you have an application that performs some processing which can take a long time to complete, you should consider displaying a window that informs the user of the progress that is being made. All the information is shown in Progress Window. You can create this window in which each field is updated while the program is running. For example, the fields in a window display the count of the number of postings made. You can also display information about the record that is currently being processed. For example, the field in a window displays the number of the account that is currently being processed.

*Data:* Information that has been processed and then stored in the computer is known as data. Such information is available in the form of text documents, images, audio clips, software programs, and a range of other types of data. The information is then processed by the CPU and later stored in files and folders in the hard disk of the computer.

*Browser:* It is a program that is used to go look for and present pages on the web. Graphical browsers like Netscape navigator and Microsoft Internet Explorer, display graphics as well as texts.

*Statistic Window:* The Statistic Window shows the statistics of the counter and its indicators at the mouse cursor.

It should be mentioned that each Microsoft Window version has its own set of toolbars, task areas and panels. Nevertheless, if a person has mastered any one version he / she has a core knowledge and will be able to catch new instruments and services without difficulties.

## **5. Comprehension Check**

### **5.1. Insert the missing words.**

- 1.... refers to the primary list of options available to the user at the computer.
2. A folder icon can be changed for ... .
3. To activate certain functions of the program the user should ... a button or an image on a ... .
4. There are various ... on the taskbar, which correspond to the windows open within a program.
5. ... can also be named "task list" because it uses interactive icons to display real-time information about the state of the computer system and some of the programs active on it.
6. Although ... hides the menus that appear when you right-click the taskbar and items on the taskbar, it does not prevent you from using other methods to issue the commands that appear on these menus.

7. Accumulated ... stored in one unit under a filename is called a file.
8. You can use ... to set attributes on files and directories.
9. ... shows the statistics of the counter and its indicators at the mouse cursor.

**5.2. State whether the following statements are true or false according to the text. Correct if necessary.**

1. Having switched on the computer you can start working from any point you wish.
2. It's impossible to accelerate the searching procedure.
3. Toolbar is a narrow grey strip across a computer screen containing pictures, called icons, which represent different computer functions.
4. Clicking the icons on a taskbar the user cannot just switch between programs or windows with the currently active program.
4. A taskbar is an element of a graphical user interface, which has only one function.
5. Only textual data must be kept in a file.
6. You can exploit the File System task to set attributes on files and directories.
7. In case you have a supplement that performs some processing which can take a long time to complete, you should display Progress Window.
8. A browser is a piece of computer software that you use to search for information on the Internet, especially on the World Wide Web.
9. The Statistics Window shows statistics for the values in each of the table's columns.

**5.3. Answer the following questions.**

1. What kind of operation occurs when a button or an image is clicked on a toolbar?
2. What allows the user to switch easily between programs or windows with the currently active program?
3. What for does the notification area of the taskbar use interactive icons?
4. What does a context menu for taskbar hide?
5. How do we usually call the accumulated facts and statistics collected together for reference or analysis and stored in one unit?
6. Is there any difference between such notions as information and data?
7. What is browser used for?
8. Microsoft Internet Explorer is used for creating 3D simulations, isn't it?
9. Does each Microsoft Window version has its own set of toolbars, task areas and panels?

**6. Conversational Practice**

**6.1. Look through the steps of creating a progress window. Make a dialogue with your partner using colloquial expressions you have already learnt.**

To create a progress window one should:

1. Click *the Tools menu* and then click *Object Designer*.
2. In *Object Designer*, select *Code* unit, and then click *New*.
3. Click *the View menu*, and then click *C/AL Globals*.
4. On *the Variables tab*, in the *Name field*, enter *Progress Window*. In the *Data Type field*, select *Dialog* from the drop-down list.

5. On the *Variables* tab, on a new line in the *Name* field, enter *Chart Of Acc*. In the *Data Type* field, select *Record* from the drop-down list. In the *Subtype* field, select *G/L Account* from the table list.

## 7. Listening Comprehension

### 7.1 Make a list of all the things you can use the Internet.

### 7.2 Match English and Belarusian / Russian equivalents.

1)Text box, 2)search engine, 3)bunch of search results, 4)Easter egg, 5)barrel roll, 6)to tumble, 7)flip a coin / rolling dice, 8)maze, 9)OHS policy (occupational health and safety), 10) hidden, 11) dinosaur.

а) палітыка ў галіне гігіены і бяспекі працы / политика в области гигиены и безопасности труда, б)тэкставае акно / текстовое окно, с) пошукавае праграмнае забеспячэнне / поисковый сервер, поисковый механизм д)неспадзеўка для карыстальніка / информация-сюрприз, е) стос пошукавых вынікаў / ряд результатов поиска, ф) перакульваць / опрокидывать, г) фігура вышэйшага пілатажу / фигура высшего пилотажа, h)кінуць жэрабя / бросить жребий, і) лабірынт / лабиринт, j) дыназаўр / динозавр, k) схаваны / скрытый.

### 7.3 Watch documentary “Fun Google Secrets” and say if the sentences are true or false.



1. When we think of Google, most of us think about it as a search engine.
2. Google is Content Control Software that gives you a bunch of search results that are always useful.
3. If you type the right phrase in Google, you can find all sorts of Easter eggs.
4. If you type “Google gravity” and click the last search result, you will watch the site tumbled to the ground.
5. According to Google's answer to the question “What is a life of the Universe for?” it is actually 42.
6. If you click “image results”, you will have your search results in a form of white and black bricks.
7. Google has a hidden game incorporated in its Chrome browser.
8. The list of Easter eggs you can find on a special site for programmers.

### 7.4 Watch the documentary again and answer the following questions

- 1.What is the film about?
2. How does Google operate?
- 3.What Google funs were shown in the film?
4. How can you explain Google's answer - 42?
5. How can you make a difficult choice with the help of Google?
6. What happens when you type “Pacman”?
7. What does a little dinosaur show?
8. What other different Google services do Easter eggs have?

### 7.5 Ask your groupmate what Google services with Easter eggs he/she knows.

## **8. Progress Test**

### **8.1. Make the first, second or third conditional.**

1. (Third) If the students (not/be) late for the exam, they (pass).
2. (Third) If the weather (not/be) so cold, we (go) to the beach.
3. (Second) If she (have) her laptop with her, she (email) me.
4. (First) If she (not/go) to the meeting, I (not/go) either.
5. (Third) If the baby (sleep) better last night, I (not/be) so tired.
6. (First) If the teacher (give) us lots of homework this weekend, I (not/be) happy.
7. (Second) If Lucy (have) enough time, she (travel) more.
8. (First) If the children (not/eat) soon, they (be) grumpy.
9. (First) If I (not/go) to bed soon, I (be) tired in the morning.
10. (Second) If I (want) a new car, I (buy) one.
11. (Second) If José (not/speak) good French, he (not/move) to Par-is.
12. (First) If John (drink) too much coffee, he (get) ill.
13. (Third) If we (tidy) our flat, we (not/lose) our keys.
14. (Third) If Luke (not/send) flowers to his mother, she (not/be) happy.
15. (Second) If the children (be) in bed, I (be able to) have a bath.
16. (Second) If you (not/be) so stubborn, we (not/have) so many arguments.
17. (Third) If Julie (not/go) to Sweden, she (go) to Germany.
18. (First) If she (go) to the library, she (study) more.
19. (Third) If we (not/have) an argument, we (not/be) late.
20. (Second) If you (arrive) early, it (be) less stressful.

### **8.2. Finish the sentences with a clause in the correct conditional.**

1. If it is sunny tomorrow ... .
2. If you sit in the sun too long ... .
3. If I were you ... .
4. If I were the Prime Minister ... .
5. If she had studied harder ... .
6. If I won the lottery ... .
7. If I hadn't gone to bed so late ... .
8. If I hadn't come to London ... .
9. If you mix water and electricity ... .
10. If she hadn't stayed at home ... .
11. If I go out tonight ... .
12. If I were on holiday today ... .
13. If I had listened to my mother ... .
14. If I hadn't eaten so much ... .
15. If it rains later ... .
16. If I were British ... .
17. If I were the opposite sex ... .
18. If I have enough money ... .
19. If you don't wear a coat in winter ... .
20. If I weren't studying English ... .



## Unit VII. Microsoft Office Applications

### 1. Sequence of Tenses

When the main verb of a sentence is in a past tense, verbs in subordinate clauses are normally in a past tense also.

Tense of verb in main clause	Examples	Tense of verb in subordinate clause
Present Ind.	He <i>thinks</i> that it will rain.	Future Ind.
Past Ind.	He <i>thought</i> that it would rain.	Future in the Past
Present Ind.	He <i>sees</i> that he has made a mistake.	Present Perfect
Past Ind.	He <i>saw</i> that he had made a mistake.	Past Perfect
Present Ind.	I <i>work</i> so hard that I am always tired.	Present Ind.
Past Ind.	I <i>worked</i> so hard that I was always tired.	Past Ind.
Present perf.	He <i>has done</i> all that is necessary.	Present Ind.
Past perf.	He <i>had done</i> all that was necessary.	Past Ind.
Present Ind.	He <i>says</i> that he is going to eat it.	Present Cont.
Past Ind.	He <i>said</i> that he was going to eat it.	Past Cont.

Direct Speech	Reported Speech
They <u>said</u> , "We <b>are</b> late. We <b>are</b> sorry."	They <u>said</u> that they <b>were</b> late and they <b>were</b> sorry.
He <u>asked</u> , "Do you always <b>take a walk</b> in the afternoon?"	He <u>asked</u> me (wondered, wanted to know) <i>if</i> ( <i>whether</i> ) I always <b>took</b> a walk in the afternoon.
"I never <b>eat</b> meat," he <u>explained</u> .	He <u>explained</u> <i>that</i> he never <b>ate</b> meat.
She <u>said</u> , "I'll <b>answer</b> the phone."	She <u>said</u> that she <b>would answer</b> the phone.
I <u>asked</u> , "When <b>will</b> the taxi <b>be</b> here?"	I <u>asked</u> when the taxi <b>would be</b> there.
She <u>said</u> , "I <b>must</b> ( <i>necessity arising out of circumstances</i> ) get up early every morning".	She <u>said</u> she <b>had to</b> get up early every morning.
She <u>said</u> , "You <b>must</b> ( <i>advice</i> ) be more careful."	She <u>said</u> he <b>must</b> be more careful.
He <u>said</u> , "I <b>can't</b> translate <i>this</i> article."	He <u>said</u> that he <b>couldn't</b> translate <i>that</i> article.
He <u>said</u> , "I <b>shall</b> write the letter <i>tomorrow</i> ."	He <u>said</u> that he <b>would</b> write the letter <i>the next day</i> .
He <u>asked</u> me, "Where <b>were you yesterday</b> ?"	He <u>asked</u> me where <b>I had been</b> <i>the day before</i> .

Direct Speech	Reported Speech
this	that
these	those
now	then
today	that day
tomorrow	the next day
yesterday	the day before
the day before yesterday	two days before
ago	before
here	there

### The List of Introductory Verbs

Introductory verb	Direct speech	Reported speech
	+ to-infinitive	
agree	"Yes, I'll <i>lend</i> you the money".	He <u>agreed</u> <i>to lend</i> me the money.
claim	"I <i>saw</i> the robbers".	He <u>claimed</u> <i>to have seen</i> the robbers.
offer	"Would you like me <i>to help</i> you?"	He <u>offered</u> <i>to help</i> me.
promise	"I'll return the book to you soon."	He <u>promised</u> <i>to return</i> the book to me soon.
refuse	"No, I <i>won't call</i> her."	He <u>refused</u> <i>to call</i> her.
	+ smb + to-infinitive	

advise	"You <i>should eat</i> more fruit."	He <u>advised</u> me <i>to eat</i> more fruit.
allow	"You <i>can go</i> to the party."	He <u>allowed</u> me <i>to go</i> to the party.
ask	"Could you <i>do me</i> a favour?"	He <u>asked</u> me <i>to do</i> him a favour.
command	" <i>Put</i> your hands up."	He <u>commanded</u> them <i>to put</i> their hands up.
forbid	"You <i>mustn't stay out</i> late."	He <u>forbade</u> me <i>to stay out</i> late.
invite	" <i>Will you come</i> to my wedding?"	He <u>invited</u> me <i>to come</i> to his wedding.
+ -ing form		
accuse smb of	"You <i>committed</i> the crime."	He <u>accused</u> her of <i>having committed</i> the crime.
apologize for	"I'm sorry, I'm late."	He <u>apologized</u> for <i>being</i> late.
complain of	"I <i>have</i> noisy neighbours."	He <u>complained</u> of <i>having</i> noisy neighbours.
insist	"You must finish by Friday."	He <u>insisted</u> on my finishing by Friday.
suggest	"Let's go out to dinner."	He suggested going out to dinner.
to smb + how		
explain	"That's how it <i>works</i> ."	He <u>explained</u> to us how it <i>worked</i> .
+ that-clause		
explain	"I <i>don't like</i> him because he's rude."	She <u>explained</u> that she <i>didn't like</i> him because he was rude.
inform smb	"The results <i>will come out</i> tomorrow."	He <u>informed</u> us that the results <i>would come out</i> the next day.
exclaim/remark	"What a glorious day!"	He <u>exclaimed/remarked</u> that it <i>was</i> a glorious day.
claim	"I <i>have won</i> the game!"	He <u>claimed</u> that he <i>had won</i> the game.
insist	"You <i>should work</i> on Saturday."	He insisted that I <i>should work</i> on Saturday.
promise	"I'll <i>come</i> ."	He <u>promised</u> that he <i>would come</i> .

## **2. Entry Test**

### **2.1. Rewrite the sentences in the reported speech, pay attention to the change of pronouns and tenses of verbs.**

1. She said, "I am reading." - *She said that ...*
2. They said, "We are busy." - *They said that ...*
3. He said, "I know a better restaurant." - *He said that ...*
4. She said, "I woke up early." - *She said that ...*
5. He said, "I will ring her." - *He said that ...*
6. They said, "We have just arrived." - *They said that ...*
7. He said, "I will clean the car." - *He said that ...*
8. She said, "I did not say that." - *She said that ...*
9. She said, "I don't know where my shoes are." - *She said that ...*
10. He said: "I won't tell anyone." - *He said that ...*

### **2.2. Complete the following sentences using an appropriate form of the verb.**

1. Suddenly she gave a loud scream and ... to the ground. (fell / had fallen / has fallen)
2. After questioning he ... to go home. (allowed / was allowed / had allowed)
3. They would have won if they ... a bit harder. (played / had played / play)
4. A little squirrel ... (was frightened / had been frightened / have been frightened) when a helicopter ... (landed / had landed / was landed).
5. Although they ... defeated, they did not lose heart. (were / are / have been)
6. Our teacher taught us that virtue ... its own reward. (is / was / will be)

7. The teacher asked the boys whether they ... the problems. (had solved / have solved / will solve)
8. He declared that he would not believe it even if he ... it with his own eyes. (see / saw / would see)
9. The room ... but the police failed to find anything suspicious. (searched / was searched / had been searched)
10. The government has announced that taxes ... (would be raised / will be raised / will raise).

### 2.3. Insert the correct tense of the verb (given in brackets) in the following blanks.

1. The poor thought he (be) not honest.
2. As far as I found out, his statement (be) not true.
3. We had hardly reached the office when the boss (leave) for Delhi.
4. A man will reap as he (sow).
5. Make haste lest you (shall) miss the chance.
6. Virtue ennobles but vice (degrade).
7. You must follow me whether you (like) it or not.
8. His mother says that he (be) much better now.
9. He ordered his secretary to note down what he (dictate).
10. He remained cheerful though he (be) ill for several days.

## 3. Word Study

### 3.1. Read these international words and try to guess their meaning

Private, a course, personal, browser, popular, a version, professional, a document, a regime, logical and mathematical formulas, a master, resume, financial management, information analytics, a filter, presentations, a slide, formatting options, a smartphone, a provider, a server.

### 3.2. Give three forms of the following verbs and revise their meaning

To collaborate, to deliver, to install, to access, to compute, to explore, to perform, to collect, to master, to edit, to put, to visualize, to define, to depend, to send, to receive, to learn, to manage, to insert, to exist, to mean, to launch, to track, to ensure, to standardize.

### 3.3. Match the words with their definitions

1.coaching	a) A network of computers within a particular company or organization.
2.off-line courses	b) Pictures with prepared fragments.
3.assignment	c) A person who has something.
4.remote worker	d) The method of teaching with the help of a personal coach.
5.app	e) A table with all necessary calculated data.
6.subscription	f) These courses are delivered and operated independently and disconnected from the Internet and can be loaded to any storage device.

7.cloud-based application	g) A unit that combines a lot of special tools in one set.
8.owner	h) An action that should be done if you want to use special Internet resource.
9.bundle	i) Application program
10. an intranet	j)A worker who does his job far from the office
11.on-line courses	k) These courses are delivered as a series of lessons to a web browser or mobile device in on-line regime
12.smart arts	l) Your special name in your windows account
13.goal seek	m) The program action for seeking the required result
13.pivot table	n) Piece of work that you are given to do, especially as part of your job or studies.
14.profile name	o) Time during which a machine, especially a computer, is in operation
15.uptime	p) An application that operates with the help of cloud data

### 3.4. Complete the following sentences using an appropriate form of the verb.

1. He thinks that the application (to operate) with the help of cloud data only next year.
2. The head of the company said that the staff (to install) software for financial management after finishing on-line courses.
3. The master explained that he never (to launch) new applications without the assignment in the origin company resource.
4. The provider asked me where I (to visualize) information analytics the day before the meeting.
5. He says that he (to compute) logical and mathematical formulas with the help of this app.
6. He said that he (to insert) some more smart arts into the presentation the next day.

## 4. Reading Practice

### 4.1. Read the text carefully and prepare to fulfill the exercises.

#### **List of Top 5 Microsoft Office Applications**

Microsoft Office is an official application software package, developed by Microsoft Inc. headquarters in Redmond, Washington, United States. Microsoft Office suite is an application software packaged with one bundle. It means you can use Microsoft Word, Excel, PowerPoint, MS-Access, Publisher etc. to create professional looking documents, charts, calculation, reports and presentations in high speed and accuracy.

Today, Microsoft Office applications are used in almost 90% official works around the world in private and government offices. They are so popular due to their flexible features, easier methods to create and collaborate in official works.

The first version was launched in 90's with the name Microsoft Office 3.0. Today everyone can install the latest Microsoft Office on his PC. The new version is a cloud-based subscription for a Microsoft Office in which all the applications have many exceptional and advanced features. It is cloud based so you can access it anywhere. And you can also use Microsoft Office Online with free Office online apps. You only need Internet browser from any of these such as Internet Explorer, Microsoft Edge, Google Chrome and Opera Mini etc. and Microsoft Email Account that you can create at Microsoft.com. After that, you can create, share and collaborate with anyone and from anywhere on online Microsoft Office.

Microsoft Office knowledge is an essential requirement in offline and online jobs. You can find Microsoft Office Skills Training in the syllabus of all computer institute and coaching centers. You can learn MS-Office by doing an offline basic computer course. After that, you can learn advanced skills from online courses.

And if you have little Microsoft Office Knowledge then YouTube videos can also help you to become a master in Microsoft Office. But for mastering in Official works you have to do 100+ exercises. Only practical exercises will give you more knowledge that is recommended for most jobs.

When you buy Microsoft Office Suite 2016 or Office 365, you will get the following (also depends on your plan and purchased product) application with the package:

Let's meet with the Microsoft Office Family Members including Word, Excel, and PowerPoint etc. and find out the duties of each member installed in the computer one by one.

1. *Microsoft Word*: You can use Microsoft Word to create and edit documents such as resume, applications, letters, school or college assignments professionally.

2. *Microsoft Excel*: Microsoft Excel is one of the applications in Microsoft Office suite that anyone can use to perform daily life and business calculation by using logical and mathematical formulas. It's a complete financial management application used by millions of people on-line and off-line. It is very well used in data and information analytics by using filters, conditional formatting, and goal seek etc. It is also used to visualize data and information in charts, smart arts, pivot tables and much more.

3. *Microsoft PowerPoint*: PowerPoint is another application of Microsoft packaged with Microsoft Office suite to create presentations using slides to present data and information in meetings, seminars. It means you can use PowerPoint to create project presentation, business plan presentation, school assignments and presentation for seminars.

4. *Microsoft Access*: You can use MS Access to create database and program to track and manage data and information. It means you can create the database of students, the database of your employees and customer records. You can also track and edit their progress with the profile name, address and everything that is needed for you to collect.

5. *Microsoft Outlook*: You can use Microsoft Outlook in computer and online as you use Gmail. It is used to send and receive official and personal mail. You can manage your day to day task and save important contacts. With the help of the application you can access existed emails without an Internet connection and insert all formatting options while writing an email.

Microsoft Office is really the most important application to install in computers.

Microsoft Office provides tools that help business owners to control remote workers to work together. It is a cloud-based application that helps to achieve higher productivity from anywhere by using any device (smartphone, tablet, computer, and laptop).

## **5. Comrehension Check**

### **5.1. State whether the following statements are true or false according to the text. Correct if necessary.**

1. Today, Microsoft Office applications are used in almost 100 % official works around the world.
2. The first version of Microsoft Office was launched in 2017. What is its name?
3. Office 365 is a cloud-based subscription for a Microsoft Office.
4. Microsoft Office knowledge is an essential requirement in off-line jobs.
5. For mastering in Official works you have to do 100+ exploitations.
6. You need a browser for using Microsoft Office apps On-line.
7. You can use Microsoft Word to create and edit documents such as resume, applications and letters.
8. Microsoft PowerPoint is usually used to visualize data and information in charts, smart arts, pivot tables and much more.
9. You can create the database of students, the database of your employees and customer records with the help of Microsoft Outlook.
10. You can use Microsoft Outlook in computer and on-line.

### **5.2. Answer the following questions.**

1. Why are applications so popular nowadays?
2. What internet browsers are mentioned in the text? What are they used for?
3. What Microsoft Office application is usually used for making presentations?
4. What does “cloud-based application” mean?
5. What can you create with the help of Microsoft Email account?
6. What is Microsoft Excel used for?
7. What app can help a teacher to control students’ progress?
8. You can access existed emails without an Internet connection by using Microsoft Office, can’t you?
9. Does Microsoft Office help to achieve higher productivity from anywhere by using any device? What devices can be used for it?
10. What Microsoft Office apps do you usually use? What for?

## **6. Conversational Practice**

### **6.1. Read the dialogue “What is the difference between a cloud and web based application?”**

Steve: Good morning! Mary! How are you?

Mary: My morning isn’t good.

Steve: What happened, dear?

Mary: My exam... I’ve failed.

Steve: Can I help you?

Mary: Sure. You are interested in IT technologies! Could you explain me what a cloud application is?

- Steve: A cloud application has an architecture that has the data and the majority of the compute cycles occurring in a data center somewhere.
- Mary: How do the components of a cloud app work?
- Steve: All the components of a cloud application are supported by a sophisticated database server that ensures up time, security and integration with other systems and supports as many access methods as necessary.
- Mary: Where can cloud apps be installed?
- Steve: They can be installed on a public cloud or on a private cloud and accessed there. Conversely the web applications can be installed on the Internet or an intranet and accessed there.
- Mary: Then you should explain me what web application is?
- Steve: Web application is an application program that is stored on a remote server and delivered over the Internet or an intranet through a browser interface.
- Mary: Do cloud and web applications have the same characteristics?
- Steve: Not quite so. Web applications share some of the same characteristics of cloud applications, they are located elsewhere and are accessible from almost anywhere. But there are some differences. I'll give you a textbook to read more about it.
- Mary: It's great! Thanks.
- Steve: Let's go to my place.
- Mary: Let's go!

## 6.2. Answer the following questions.

1. What types of software applications were mentioned in the dialogue?
2. Where does data processing occur in case of using a cloud application?
3. What are all the components of a cloud application supported by?
4. What does a database server ensure?
5. Where can cloud apps be installed?
6. Where can web apps be installed?
7. What kind of an application program is web app?
8. Web applications share some of the same characteristics of cloud applications, don't they?

## 6.3. Role-play the dialogue with your partner on analogy. Use the information from the table given below.

### COMPARISON BETWEEN CLOUD APPS AND WEB APPS :

Cloud application	Web application
The app is accessed through the internet or other computer network.	The app is accessed through the internet or other computer network.
All cloud apps are web apps	Not all cloud apps are web apps.
Majority of the computer cycles occur in a data center	Somewhere located elsewhere and are accessible from almost anywhere
Inherently scalable	Limited by scalability
Very high uptime	Limited by availability
User data and business process are stored in multiple data centers	User data and business process are stored in a single data center
The provided app is standardized for all customers	Each customer uses its own instance of the app
Multi-tenancy solution	Isolated-tenancy solution

Can run on the user's computing systems or the provider's web servers	Only run on the provider's web servers
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**Note:**

Inherently scalable – прыдатны на пашырэнне / способный к расширению.

Multi-tenancy solution – магчымасць выкарыстання ўсіх функцыянальных опцый дадзенага рэсурсу / возможность использования всех функциональных опций данного ресурса.

Isolated-tenancy solution – магчымасць выкарыстоўваць адзіную опцыю дадзенага рэсурсу / возможность использовать единственную опцию данного ресурса.

**7. Listening Comprehension****7.1. Match English and Belarusian / Russian equivalents.**

1) array, 2) a search query, 3) to execute, 4) to secure, 5) MS facility, 6) high-density tracks (recordings), 7) raised floor, 8) a chiller, 9) UPS (Uninterruptible Power Supply) systems, 10) a shipping container, 11) PUA (paid-up additions), 12) plug-and-play components, 13) ribbon, 14) to enable, 15) badge reader, 16) PUE (Power usage effectiveness)

a) забяспечваць ахову / обеспечивать безопасность, b) запісы з высокай шчыльнасцю / записи с высокой плотностью, c) фальшпадлога (падлога, пад якой умацавана абсталяванне) / фальшпол (технологический пол в больших вычислительных центрах, под которым проходят все кабели), d) пошукавы запыт / поисковый запрос, e) кантэйнер для транспартавання / транспортировочный контейнер, f) сукупнасць / совокупность, g) крыніца бесперабойнага забеспячэння / источник бесперебойного питания, h) абсталяванне, якое гатова для выкарыстання / оснащение, которое готово для использования, i) абсталяванне для чытання ідэнтыфікацыйных картак, баджаў / устройство чтения идентификационных карточек, баджей, j) збудаванні, якія належаць Майкрасофту / постройки, принадлежащие Майкрасофту, k) кабельная стужка / кабельная лента, l) дадатковыя сумы для аплаты / дополнительные суммы на оплату, m) астуджальнік / охладитель, n) разблакіраваць, дазваляць / разблокировать, разрешать, o) выконваць / выполнять, p) эфектыўнасць выкарыстання энергазабеспячэння / эффективность использования электропитания.

**7.2. Match the words with their definitions.**

1) availability; 2) efficiency; 3) network; 4) performance; 5) power usage effectiveness (PUE); 6) reliability; 7) scalability; 8) security; 9) sustainability.

a) a group or system of interconnected people or things;

b) a ratio that describes how efficiently a computer data center uses energy; specifically, how much energy is used by the computing equipment (in contrast to cooling and other overhead);

c) avoidance of the depletion of natural resources in order to maintain an ecological balance; the ability of something, esp a computer system, to adapt to increased demands;

d) the action or process of performing a task or function;

e) the quality of being able to be used or obtained;



- f) the quality of being able to do a task successfully, without wasting time or energy;
- g) the quality of being trustworthy or of performing consistently well;
- h) the state of being free from danger or threat.
- i) the ability of something, esp a computer system, to adapt to increased demand

**7.2. Watch documentary “Microsoft Datacenter Tour” and say if the statements are true or false. Check the false ones.**



1. Microsoft (MS) cloud in reality exists in vast worldwide network of data centers.
2. MS provides the foundation for a wide array of off-line services.
3. When you use one of these services to do a search query your request travels from your PC or mobile phone across the Internet connected by an extensive global network moving at the speed of light to a data center.
4. A data center executes the query and returns the results in 3 seconds.
5. Microsoft's cloud is comprised of a globally distributed data center infrastructure supporting over 200 online services, more than a billion customers and 20 million businesses in over 70 countries use these services.
6. MS has been operated by data centers since 1999.
7. In 2007 MS opened the first generation to data center in San Francisco.
8. Today MS facility is approximately the size of 20 football fields.
9. A traditional raised floor with chillers and air handling equipment ensures precise control over environmental conditions
10. MS facility in Dublin maintains a PUA of 1.25 and improves energy efficiency by approximately 90% as compared to our traditional data centers.
11. Plug-and-play modular components can be manufactured of recyclable materials such as steel and iron.
12. MS data centers are based on its value.

**7.4. Watch the documentary again and answer the following questions.**

1. What is the documentary about?
2. What are the abilities of the MS team?
3. What did they begin to design from 2004 to 2007?
4. What does MS facility include?
5. What equipment ensures that electricity remains continuous uninterruptible?
6. What type of energy does MS facility use?
7. What is used for housing 2,400 servers?
8. What substance do they use for cooling the air in chillers?
9. Do control systems in data centers check only temperature or something else?
10. What type of ribbon do they use? What does it ensure?
11. How do they enable security?
12. What new software will help MS to expand customer services?

**7.5. Imagine yourself in a MS data center and make your dialogue: a) as a manager and an employee, b) as a skilled professional and as a high school graduate, c) as a boss of MS and a senior manager.**

**8. Progress Test**

**8.1. Transform these sentences into reported speech.**

1. (She thought) He is ill.
2. (He said) I will be back tomorrow.
3. (She said) I don't like this film.
4. (She asked me) Where's the airport?
5. (He asked her) Do you like tea or coffee?
6. (He wondered) What am I doing here?
7. (He proved) The earth is not flat.
8. (I knew) These figures can't be right.
9. (She thought) Her dog understands everything she says.

**8.2. Turn the sentences from reported speech into direct.**

1. He said that his bus hadn't come in time the day before.
2. The boys said they would go to the football match.
3. He said their team hadn't won the last game.
4. Molly said that she had gone to the library after school.
5. Liz said that she would go home early.
6. We said that we hadn't made any plans yet.

**8.3. Turn the questions into reported speech.**

1. Can Molly speak English?
2. What impressed you most in England?
3. When did Rick come home yesterday?
4. Does Megan like travelling?
5. Will you come to my place on Friday?
6. Is it your second visit to England?
7. Why have you come to Scotland?
8. Will Molly stay at the hotel long?

**8.4. up- and -up verbs**

**Complete each gap in these sentences with the appropriate form of the correct verb from the box.**

a) back up, b) build up, c) catch up, d) free up, e) keep up, f) set up, g) start up, h) update, i) upgrade, j) upload, k) meet up

- 1) To avoid losing data, you should ... your files regularly.
- 2) You can ... your PC by adding a new motherboard.
- 3) Delete some files to ... space on your hard disk.
- 4) Data is ... from regional PCs to the company's mainframe each night.
- 5) The operating system boots when you ... your computer.
- 6) She's taking a course to ... her knowledge of computing.
- 7) The computer checks the memory when it ... .
- 8) He ... a website to advertise his travel company.
- 9) You can ... with developments by reading PC magazines.
- 10) If you miss a class, you can study the hand-outs to ... .
- 11) The image in a digital camera is ... from a red, green and blue image.

## Unit VIII. When Your Laptop Screen Goes Black

### 1. Numerals

#### Cardinal numerals

In formal nontechnical texts, numbers from one to one hundred, round numbers, and any numbers that can be expressed in one or two words are usually spelled out, that is, written out in words. In less formal texts, as a general rule, numbers from one to ten should be spelled out, and figures can be used for numbers above ten:

*She has got three brothers.*

*How many feet are there in a mile? – There are 5,280 feet in a mile.*

Numbers at the beginning of the sentence should be written out in words. In cardinals consisting of *tens* and *units* the two words are hyphenated. In cardinals including *hundreds* and *thousands* the words denoting *units* and *tens* are joined to those denoting *hundreds*, *thousands*, by means of the conjunction and. If you need to use figures, restructure your sentence:

*Fifty-six workers were fired yesterday. – Yesterday 56 workers were fired.*

*225 – two hundred and twenty-five,*

*3,038 - three thousand and thirty-eight,*

*6,102 – six thousand, one hundred and two,*

*303,000,000 – three hundred and three million.*

If not part of a composite numeral the words *hundred*, *thousand* and *million* in the singular are always used with **the indefinite article**; in composite numerals both **a** and **one** are possible, but **one** is less common:

*100 pages - a hundred pages, 1000 ways - a thousand ways;*

*115 pages - a (one) hundred and fifty pages.*

Numerals used in the same function in a sentence are usually written either as words or as figures:

*He wrote one hundred and thirty essays, fifty-two stories, and seven novels. / He wrote 130 essays, 52 stories, and 7 novels.*

Both in British English and in American English groups of three digits in numerals of one thousand and higher are usually separated by a comma, counting from the right: 4,286; 12,345; 378,925; 6,540,210.

#### Ordinal numerals

Ordinal numerals that can be expressed in one or two words are usually written as words. The simple ordinals are *first*, *second* and *third*. The derivative ordinals are derived from the simple and derivative cardinals by means of the suffix – **th**:

*Four-fourth, ten-tenth, sixteen-sixteenth, thirty-thirtieth, five-fifth, nine-ninth, twenty-twentieth, nine-ninth.*

The compound ordinals are formed from composite cardinals. In this case only *the last component* of the compound numeral has the form of the ordinal:

*Twenty-first, forty-second, sixty-seventh, one hundred and first.*

Generally, ordinal numerals are used as adjectives and stand before nouns. An ordinal numeral is usually preceded by the definite article "the":

*The first story was interesting. The second was dull.*

John Kennedy was **the 35th** president of the United States.

## Fractions

A fraction is a numerical quantity that is not a whole number (e.g.,  $1/2$ , 0.5). When we measure something, such as a length, it will not always be a whole number. Therefore, we need numbers that are less than 1; 2 or other figures – numbers that are the parts of these figures: half of one, a third/ a fourth/ a fifth/ a millionth part of some figure:

$1/3$  means 1 out of 3

The first number in fraction, written before slash (/), is called *numerator* and is expressed by the cardinal numeral. The second number, written after slash (/), is called *denominator* and is expressed by the ordinal numeral.

NOTE: you use the ordinal only in oral speech and in fractions written in words, you don't have to write suffixes "rd, th, ths" in written figures. Therefore, you write  $1/5$ , but you pronounce it and write it in words as *one-fifth*. If the numerator is a numeral higher than one, the ordinal in the denominator takes the plural form. The numerator and the denominator may be joined by means of a hyphen or without it:

$1/3$  - *one-third* (*one third*; *a third*),

$2/7$  – *two-sevenths* (*two sevenths*),

$4/5$  meter – *four fifth of a meter* (*My sister bought four fifth of a meter of cotton yesterday.*)

$2\frac{1}{4}$  miles – *two and a quarter miles*.

Decimal fractions are read as follows:

6.44 – *six point forty four*, 0.35 – *nought (zero) three five*.

## Squared/ Cubed

Square numbers are written  $2^2 =$  we say "Two squared" =  $2 \times 2 =$  *Two squared equals four*.

Cubed numbers are written  $2^3 =$  We say "Two cubed" / "two to the power of three" =  $2 \times 2 \times 2 =$  *Two cubed equals eight*.

## Mathematical operations

$5+23=28$  – *five plus twenty-three is twenty-eight*,

$67-12=55$  – *sixty-seven minus twelve is (makes) fifty-five*,

$8 \times 3 = 24$  – *eight multiplied by three is twenty-four*,

$18 \div 3 = 6$  – *eighteen divided by three is (equals) six*,

$\sqrt{16} = 4$  – *the square (second) root of 16 is 4*,

$\sqrt[3]{9}$  – *the cube root of nine*,

$\sqrt[n]{12}$  – *the n-th root of twelve*.

## 2. Entry Test

### 2.1. Choose the correct form of the Numeral.

- 1) My daughter is still a teenager. She is only *fifteen/fifteenth*.
- 2) He knew it was a painting worth \$10 *million/millions*.
- 3) *Three hundred/Three hundreds* people gathered at the stadium.
- 4) In *the section 2<sup>nd</sup> /section 2* we also suggest other topics that need to be researched.
- 5) The first battle of the American Revolution was fought in *year/the year/...* 1775.

- 6) *Hundred/A hundred* years ago the principal means of communication was by post and telegraph.
- 7) How many children are there in the school? About *three hundred/three hundreds*.
- 8) The report has got over *five hundred/five hundreds* pages.
- 9) It happened in the year *two thousand and two/two thousands and second*.
- 10) All International flights are from *Terminal One /the Terminal One*.

## 2.2. Fill in cardinal or ordinal numerals

- 1) There are ... months in a year.
- 2) January is ... month of the year.
- 3) May is ... month of the year.
- 4) There are ... months in winter.
- 5) December is ... month of the year and ... month of winter.
- 6) There are ... days in a week: ... one is Monday, ... one is Tuesday,...one is Wednesday, ...one is Thursday,...one is Friday, ...one is Saturday and ...one is Sunday.
- 7) Sunday is ...day of the week in England and ...one in Russia.
- 8) Monday is ...day in Russia and ...in Great Britain.
- 9) There are ... hours in a day, ... minutes in an hour and ... seconds in a minute.
- 10) September, April, June and November have ...days. All the rest have ... except February.
- 11) There are ...days in February except the leap year. It's the time when February has ... days.

## 2.3. Calculate and pronounce.

$$4,286 + 12,345 = \quad \sqrt{16} : 4 + 8.68 = \quad 7/5 - 2/5 - 1/5 =$$

$$4^2 + 2^2 + 8^3 = \quad 5/18 + 2/9 = \quad 3\,949,53 + 4\,348,48 =$$

$$78.881 + 87.881 = \quad 12,323 + 378,935 = \quad 3^2 - \sqrt{4} + 5^3 =$$

## 3. Word Study

### 3.1. Give three forms of the following verbs and revise their meaning.

To fix, to fail, to identify, to find, to repair, to try, to ascertain, to deal, to update, to download, to thwart, to infect, to affect, to get, to contaminate, to malfunction, to upgrade, to refrain, to loose, to black out, to wear out, to check, to replace, to overheat, to occur, to pirate, to attach.

### 3.2. Match the words with their definitions.

1.troubleshooting	a)It requires a lot of money
2.overheating	b) The activity or process of solving major problems or difficulties that occur in a company or government
3.virus	c)It forms the outer surface or structure of something
4.data bank	d)An amount of energy that can be collected and used to operate a machine, to make electricity
5.power supply	e)An apparatus with rotating blades that creates a current of air for cooling or ventilation
6.fan	f)The place where equipment can be fixed
7.repair shop	g)The process of becoming too hot or making something become too hot
8.expensive	h)A large amount of data on a particular subject that is stored in a computer
9.external	i)Instructions that are hidden within a computer program and are designed to cause faults or destroy data

### 3.3. Match the synonyms.

1) crucial, 2) to pirate, 3) to contaminate, 4) display, 5) to fix, 6) to identify, 7) outdated, 8) device, 9) failure, 10) to update, 11) to check, 12) data.  
 a) screen, b) to control, c) crash, d) old-fashioned, e) critical, f) information, g) to repair, h) to ascertain, i) to upgrade, j) to pollute, k) to rob l) equipment.

## 4. Reading Practice

**4.1. While reading the text find the sentences with modal verbs and say what functions are they used for.**

### **What to do When Your Laptop Screen Goes Black?**

There are many reasons for a laptop screen to go black and most of these causes can be fixed easily. Major technical failures are hard to identify and expensive to repair but you may want to try these solutions first.

If you find that your laptop screen has gone black suddenly, you must know that there are a number of possible reasons for this. Then you must not panic and should follow a systematic troubleshooting procedure.

*Computer Crash* One of the most complicated reasons the screen goes black is a crash. This could occur for a variety of reasons, and is often difficult to fix. You will have to take the machine to a computer repair shop and they will open up the laptop there to find the cause. This could set you back by a few hundred dollars as well. The crash could be caused by overheating or maybe even a loose power supply cable. One solution for you is to play an audio file if the laptop goes black. If it does not play at all then something is wrong with the entire system, but if the audio file plays, then it is just the laptop screen that is troubled.

*Virus Attack* There are a few computer viruses that can cause this problem but most antivirus programs can effectively deal with such a virus. Update the antivirus software regularly and make sure you download all possible firmware and this sort of virus will be successfully thwarted. If your machine is infected with such a virus then your video drivers will most certainly be affected and even your video card could get contaminated. All these results in the computer screen going black and in some instances the screen may even go blue.

*Outdated Drivers and Programs* The video drivers are crucial for making the computer monitor function properly. Though on some occasions these programs can stop functioning due to various reasons. If your screen turns black after startup then maybe it is your video drivers that are malfunctioning. To avoid this situation you should constantly upgrade your video drivers and should also refrain from using pirated ones.

*Faulty Data Connections* At times a simple loose connection may cause your screen to black out. The data ribbons that connect the hard drive to the screen may get loose or wear out over time. A simple way to test this would be to attach your laptop to an external screen. If the display comes up on this screen then it could be the data ribbon that needs to be checked. Replacing these should ideally solve the problem.

*Overheating Problems* Your laptop like any other electronic device tends to heat up when used excessively. This may cause your machine's hardware to malfunction. The best option would be not to use the laptop for long hours. You could also get external laptop fan for better cooling. If this is the cause for the laptop screen to black out switching off the device for a while and then switching it on after it has cooled down, should solve the problem.

## **5. Comrehension Check**

### **5.1. State whether the following statements are true or false according to the text. Correct if necessary.**

1. Major technical failures are hard to identify and expensive to repair but you may want to try these solutions first.
2. If you find that your laptop screen has gone black suddenly you must know that there is only one possible reason for this.
3. One of the simplest reasons the screen goes black is a crash.
4. If the screen goes black you should follow a systematic troubleshooting procedure.
5. If the audio file plays then it is just the laptop keyboard is troubled.
6. There are a few computer viruses that can cause this problem but most antivirus programs can effectively deal with such a virus.
7. The data ribbons that connect the hard drive to the storage device may get loose or wear out over time.
8. You could get external laptop fan for heating.

### **5.2. Answer the following questions.**

1. Has your Laptop screen ever gone black? What have you done?
2. What is the most complicated reason of the computer screen going black?
3. What can you find out by playing an audio file?
4. What can effectively help your Laptop to withstand virus attacks?
5. When can computer programs stop functioning?
6. Why shouldn't you use pirated video drivers?
7. How can you prevent computer overheating?

## **6. Conversational Practice**

**6.1. Look at the picture and smile. Role-play the dialogue with your partner using the information from the text "What to do When Your Laptop Screen Goes Black?"**



"It could be that it's not plugged in,  
but that would be too easy."

## 7. Progress Test

**7.1. Use the correct words for the numbers in brackets. Write the cardinal or ordinal numbers in word forms into the gaps.**

1. It is ... time he comes here. (8)
2. I have bought ... books. (4)
3. It's our ... day of our holiday in Florida. (5)
4. I have seen ... of my friends. (2)
5. He is in ... class. (7)
6. Jamie is ... years old. (10)
7. Today is ... of April. (1)
8. It costs only ... pound. (1)
9. He scored ... goals in ... games. (3)/(2)
10. It was his ... goal in the last ... games. (3)/(2)
11. He has learnt English for ... years. (7)
12. You will find the answer in ... lesson. (3)
13. Monday is ... day of the week. (1)
14. There is only ... cake left. (1)

**Pronounce and write the following figures in English.**

28; 359; 6,9724; 73,891; 763.573; 785.502; 92,586,542; 697,573,121;  $1/3$ ; 0.3; 0.001;  $2/5$ ; 2.5;  $1/8$ ; 0.08;  $3\frac{6}{9}$ ; 6.78; 25.745;  $\sqrt{27}$ ;  $3/8$ ;  $6^2$ ;  $45^3$ ;  $73\frac{3}{8}$ ;  $43\frac{2}{3}$ .

**7.3. Study these steps to take before you phone for technical support. Rewrite each one using the clue given.**

1. Reboot your PC to see if the problem recurs. (*should*)
2. Use your PC's on-board diagnostic and repair tools. (*recommend*)
3. Record the details of the problem so you can describe it accurately. (*a good idea*)
4. Note your system's model name and serial number. (*advise*)
5. Keep a record of hardware and software you've installed along with any changes you've made to settings. (*strongly recommended*)
6. If you think hardware may be at fault, figure out how to open the case. (*should*)
7. Visit the vendor's website and check the FAQs. (*the best thing*)
8. Avoid phoning in peak times. (*never*)
9. Have your system up and running and be near it when you call. (*good idea*)
10. When you reach a technician, tell him or her if you may have caused the problem. (*advise*)



**7.4. Diagnose these faults and provide advice on each problem.**

1. My laser printer produces very faint copies.
2. When I print, three or four sheets come through the printer at the same time.
3. My spreadsheet does not seem to add up correctly.
4. Everything I type appears in capitals.
5. My PC is switched on but the monitor screen is blank.
6. I tried to print a document but nothing came out of the printer.
7. My monitor picture is too narrow.
8. My monitor screen flickers.
9. My mouse responds erratically.
10. The time display on my computer is one hour slow.
11. When I print out a page, the first two lines are missing.
12. My computer sometimes stops and reboots itself. The lights dim at the same time.

**7.5. Read the text and state the function of the verb *to have*: modal verb, auxiliary verb, lexical (main) verb. Make the summary of the text.**

**Belarusian programmers creating gesture interpreting app**

Park.by. news 16.11.2017 22:23

A team of 20 Belarusian programmers has been working on a very prospective start up for six months. The team is trying to create an app which will be able to define gestures and then interpret them into words.

No one had before created such useful apps. It is not surprising that the project found its investor fairly quickly. Ilya Lesun, the leader of the project had told what his team was currently working on. “We first had to create something like GameDev does, then we started developing the app for the IOS function. With the help of tracking we managed to start developing the program for gestures. Then our team was asked to create a project of one more AR-game for a mobile platform with a virtual character with whom we could cooperate with the help of gestures. Currently we have been working on creating a full defining of gestures for sign language”.

Ilya Lesun has emphasized that deaf people are not in the best of positions in life. They can’t hear those who speak and those who speak can’t understand them. “We have to help many people by just creating an app which will translate gestures into text, voice, and vice versa”.

So, how will the app work? The app will use an ordinary RGB-camera (Red-Green-Blue), which any smartphone has got. Through a certain filter the necessary data is then collected. After that a neural system will analyze it and a certain command will be launched.

“Till this moment so far we have been working on the math side of the project, now we will be moving on to the neural system. It will certainly improve the quality of our work”, Anton Milyutin, the data analyst of the team, has explained.

The app can already identify eyes, lip points. The aim of the app is to take in the emotions, to form phrases with the help of these emotions. The current aim of the app’s

developer's is to create a platform where deaf people would be able to teach new gestures to the system. Then a smartphone camera has to interpret a gesture into a text.

At the moment nobody has developed anything like this app. Nevertheless, Google, Apple, Amazon and Microsoft have been working in this direction.

Note: IOS (Internet-working Operating System)

## Unit IX. Information Technologies in Teaching Learning Process

### 1. Letter Writing

#### **Business letters**

When writing letters in English, you should always begin with ‘Dear ...’ unless you are writing to a friend or writing an informal note, in which case you might prefer to write ‘Hello ...’ or ‘Hi ...’ or the American ‘Hey ...’

For example:

- ✓ Dear John (informal, or if you know the person very well);
- ✓ Dear Mr (Dr., Prof.) Smith;
- ✓ Dear Ms Smith (always use ‘Ms’ when writing to a woman, unless you know that she prefers ‘Mrs’ if married or ‘Miss’ if single);
- ✓ Dear General Manager;
- ✓ Dear Sir or Madam (use this if you don’t know the name of the person, who you are writing to) / Dear Sirs (when addressing an organization or a company).

#### **Possible beginnings**

- ✓ In reply to your letter;
- ✓ With reference to our phone call;
- ✓ Thank you for your letter of September 3<sup>rd</sup>;
- ✓ Further to our conversation yesterday;
- ✓ I enjoyed our conversation last week.

#### **The reason for writing**

- ✓ I am writing to enquire about;
- ✓ I would like to enquire about;
- ✓ I would like to confirm my reservation/ my order / apologise for my behaviour/ reply to your phone call / organise a meeting / suggest that we meet up.

#### **Requesting**

- ✓ I would be grateful if you could;
- ✓ Would it be possible for;
- ✓ Could you possibly;
- ✓ Agreeing to Requests;
- ✓ I would be delighted to (accept your invitation).

#### **Giving Bad News**

- ✓ Unfortunately, I have to inform you that;
- ✓ I am afraid that;
- ✓ It is with sadness that I must inform you that (you will no longer be required) / of (your redundancy).

#### **Enclosing Documents**

- ✓ Please find enclosed;
- ✓ I am enclosing;
- ✓ Enclosed, you will find;
- ✓ Closing Remarks;
- ✓ Thank you for your help;
- ✓ Thank you for your time;

- ✓ Thanking you in advance;
- ✓ Please contact us again if we can help you in any way / there are any problems / you have any questions.

### **Reference to Future Contact**

- ✓ I look forward to hearing from you soon / seeing you on Friday / meeting you;
- ✓ Signing off;
- ✓ Yours faithfully, (Formal, if you don't know the name of the person you're writing to);
- ✓ Yours sincerely / Sincerely yours, (Formal, if you know the name of the person you're writing to);
- ✓ Best wishes / Best regards / Kind regards (more informal, If the person is a close business contact).

## **2. Entry Test**

### **2.1. Write the letter of yourself with the help of Sample Business Letter.**

#### **Sample Business Letter**

<p>September 3rd 2009 Mr. T. Clark General Manager Furniture Warehouse. 73 Table Avenue Totnes Devon TN6 789</p> <p>Dear Mr. Clark, Thank you for sending me the new kitchen furniture brochure, which I received yesterday. Further to our telephone conversation, I would like to place an order for the large, green table with mahogany legs. Please find enclosed my order form with payment details. I would be grateful if you could let me know when I should expect delivery. I look forward to hearing from you. Yours sincerely,  J. Smith.</p>	<p>45 Red Lane Balderton Newark NK1 4SY Tel: 00000 000000 Email: j.smith@xxxxxx.com</p>
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## **3. Word Study**

### **3.1. Give three forms of the following verbs and revise their meaning.**

To participate, to teach, to learn, to study, to define, to develop, to dominate, to prepare, to encompass, to rely, to incorporate, to cope, to interact, to coach, to promote, to facilitate.

### **3.2. Match the words with their definitions.**

1. society	a) a large body of people united by common descent, history, culture, or language, inhabiting a particular state or territory
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2. independently	b) the imparting or exchanging of information by speaking, writing or using some other medium
3. to disseminate	c) the act of working together to produce a piece of work
4. nation	d) data that characterizes but does not measure the attributes, characteristics, properties, etc.
5. method	e) the aggregate of people living together in a more or less ordered community
6. learning environment	f) in a way that is free from outside control or influence
7. qualitative data	g) a particular procedure for accomplishing or approaching something
8. collaboration	h) the educational approach, cultural context, or physical setting in which teaching and learning occur.
9. communication	i) to spread or give out (something, especially news, information, ideas, etc.)

### **3.3. Translate the following words and word combinations into your native Language. Try to memorize them.**

Spoon-feeding, communication technologies, pedagogical methods, learning environment, self-learning habits, inquiry-learning habits, an individualized instruction, knowledge explosion.

#### **4. Reading Practice**

**4.1. While reading the text find the sentences where - *ing* form is used. Define their functions.**

#### **New practices and paradigms for education**

One of the basic functions of education is preparation of students for life. This function in 21st century may be participation in an information society where knowledge is regarded as the main source for socio-cultural and economical development of countries and nations. Information societies are developed, they dominate and control the information throughout the world. Information encompasses and relies on the use of different channels of communication, presently called information and communication technologies and it will incorporate better pedagogical methods to cope with such emerging situations.

These have changed the scenario of education particularly pedagogy and instruction making teaching learning process more productive, creating, collaborative, learner centered and interactive global learning environments.

Information society promotes new practices and paradigms for education where the teacher has to play new role of mentoring, coaching and helping students in their studies rather to play the conventional role of spoon-feeding in the classrooms.

Students can learn independently having a wide choice of programme selection and access to information. Students can be involved in skill oriented activities in group learning environments for accumulated knowledge. They can interact and share learning experiences with their teachers and fellow learners in knowledge construction and dissemination process. They can receive and use information of all kinds in more constructive and productive profession rather depending upon the teacher.

Internet provides learners with the latest relevant information at their own pace and they can form a virtual community of learners at global level. Teaching organizations are adopting information and communication technologies, World Wide Web, teleconferencing and educational television because of their cost effectiveness,

access and flexibilities of choices.

*Students use Information Technologies to:*

1. Participate in a media revolution, profoundly affecting the way they think about and use information technologies.
2. Improve the ways of learning in new learning fashions
3. Extend the ability and skills of applying their learning in real situation.
4. Work in groups for cooperative and collaborative learning.
5. Develop self-learning habits at their own pace and time.
6. Learn with the teacher rather by the teacher.
7. Develop inquiry-learning habits.
8. Use right information at right time to achieve right objective.
9. Review and explore qualitative data.
10. Exchange learning experiences and information with other students and teachers living anywhere in the world.

Information technologies facilitate students in their learning process through their active participation on the one hand and help teachers on the other hand. Therefore, *teachers use Information Technologies to:*

1. Present the material in a more interesting and attractive way.
2. Guide and help students in searching the qualitative material.
3. Make best use of time.
4. Coach the students.
5. Provide individualized instruction.
6. Direct the students toward cooperative as well as collaborative learning activities.
7. Prepare learning material for students, rather than teach in conventional situations.
8. Diagnose the learning problem of students and help them to overcome.
9. Solve the study problems of students.

Information technologies are the result of knowledge explosion. These include hardware & software technologies and facilitate teaching learning process. Using Information Technologies learners are now able to participate in learning communities throughout the world.

## **5. Comprehension Check**

### **5.1. Answer the questions.**

1. What has changed the scenario of education?
2. What role does a teacher have to play in information society?
3. What do students have nowadays to learn independently?
4. Skill oriented activities can help students to become self-confident, can't they?
5. What does Internet provide learners with?
6. IT help the teacher to improve the ways of learning in new learning fashions, don't they?
7. How do teachers use IT to attract students?
8. With the help of IT teachers shouldn't coach the students, should they?
9. Using Information Technologies learners are now able to participate in learning communities throughout the Internet, aren't they?

10. What IT are you going to implement in teaching process after graduating from the BNTU?

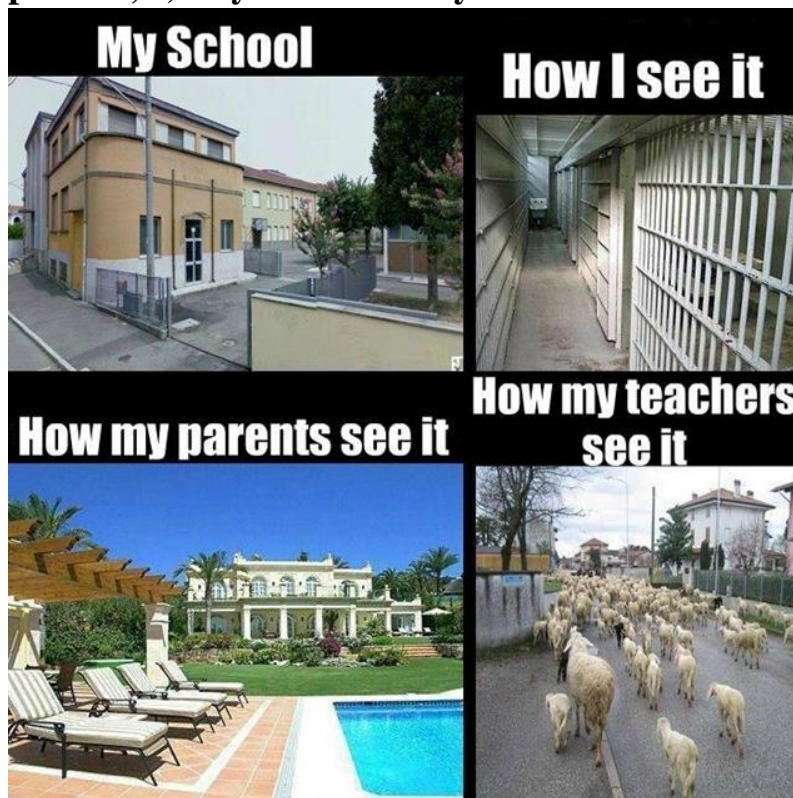
### 5.2. Continue the phrases to make up sentences.

1. Information encompasses and relies on the use of different channels of communication, presently...
2. Students can learn independently having a wide choice of program selection and ...
3. They can interact and share learning experiences with their teachers and fellow learners in knowledge construction and ...
4. Teaching organizations are adopting information and communication technologies, World Wide Web, teleconferencing and educational television because...
5. IT extend students' skills of applying their learning in ...
6. Information technologies are the result of...
8. Teachers use Information Technologies to diagnose ...
9. With the help of IT students can be involved in skill oriented activities in...
10. IT can solve the study problems of ...

### 6. Conversational Practice

6.1. Look at the picture and say how IT can help to change the situation. Role-play the dialogue with your partner:

a) as parents; b) as teachers; c) as a teacher and a pupil; d) as a headmaster and parents; e) as your dad and you.



## Unit X. Internet

### 1. Curriculum Vitae

A curriculum vitae /kə'rikjʊləm 'vi:taɪ, -'wi:taɪ, -'vaɪti:/ (often shortened CV or vita) is a written overview of a person's experience and other qualifications for a job opportunity. It is sometimes called a resume. In some countries a CV is typically the first item that a potential employer encounters regarding the job seeker and is typically used to screen applicants, often followed by an interview. CVs may also be requested for applicants to postsecondary programs, scholarships, grants and bursaries. In the 2010s, some applicants provide an electronic text of their CV to employers using email, an online employment website or using a job-oriented social networking service website, such as LinkedIn.

#### CV vocabulary

*job experience* - досвід праці / опыт работы

*references are available upon request* - рекомендації доступні на запит / рекомендации предоставляются по запросу

*main achievements* - головні досягнення / главные достижения.

*core skills* - основні навички / базовые умения

*customer support* - підтримка клієнта / техническая поддержка потребителей

*participating in projects* - участь у проєктах / участие в проектах

*negotiating with clients* - ведення перемовин з клієнтами / переговоры с клиентами

*reporting* – звітність / представление отчёта или доклада

*budgeting* - планування бюджету / составление бюджета

*staff recruiting* - підбір персоналу / подбор персонала

*full-time employment* - праця на повну робочу день, повна зайнятість / работа полный рабочий день, полная занятость

*part-time employment* - неповна зайнятість / неполная занятость

*salary* - зарплатна плата / заработная плата

*advertisement* - оголошення, реклама / объявление, реклама

*responsibilities, duties* - обов'язки / обязанности

*to graduate with high honors* - закінчити з відзнакою / окончить с отличием

*till present* - до теперішнього часу / до настоящего времени

*join the company* - вступити на роботу в компанію / поступить на работу в компанию

*job hunting* - пошук праці / поиск работы

### 2. Entry Test

**2.1. Study your active vocabulary and make four sentences using as many word combinations as you can.**

**2.2. Look through the template of CV and decide what information is the most important for an employer.**

First Name Last Name (Surname)

#### Objective

Use a specific job title here, or write a brief, simple phrase describing the type of work you are seeking.

#### Summary

Summarize your background and most valuable attributes.

Using concrete examples, explain to potential employers precisely what you will be able to do for them. Describe your unique gifts and strengths. Write this section last, as it is often the most difficult to write.

#### Personal Data

Date of birth:

Age:



Place of birth:

Marital status; Children, their ages:

Address:

Phone:

Home phone:

Fax, E-mail:

### **Education**

20xx-20xx Degree obtained, school name

### **Job Experience**

20xx- Name of Company, Position. Using action words to maximize the impact, describe your current or most recent responsibilities. Include the specific results of your actions or decisions to demonstrate your contribution.

20xx- Name of Company, Position. In the same manner as above, describe your previous job.

### **Languages Knowledge**

- ✓ List languages, include mother language, describe your level of knowledge.

### **Computer & Technical Skills**

- ✓ List software applications, operating systems, and pertinent hardware information.
- ✓ Include years of experience, or describe your level of knowledge.

### **Licenses & Certificates**

- ✓ List licenses or certificates you hold that are pertinent to the job you are seeking.
- ✓ Include the year you obtained each license or certificate.

### **Interests & Activities**

- ✓ List only those interests and activities that you regularly participate in.

## **2.3. Answer the questions**

1. What part of CV is the most difficult to write?
2. What section includes the information about marital status?
3. What does section "Personal data" include?
4. It isn't necessary to describe your previous job in CV, is it?
5. Should you mention your mother language?
6. What do you need to write about technical skills?
7. What licenses can people have?
8. What license is the most widely spread in your country?
9. What person's interests and activities can be valuable for an employer?

## **2.4. Write CV of yourself with the help of the template**

### **3. Word Study**

#### **Match the words with their definitions.**

1. to communicate	a) the synonym to connect
2. hypertext	b) with reference to an increase more and more rapidly, expressed by a mathematical exponent
3. initial	c) a unit of computer memory or data equal to 1,024 bits
4. innovation	d) the speed of data transmission
5. to hook	e) a fact or situation that is observed to exist or happen, especially one whose cause or explanation is in question
6. exponentially	f) existing or occurring at the beginning
7. phenomenon	g) text on a computer display or other electronic device with references (hyperlinks) to other text that the reader can immediately access
8. line speed	h) to share or to exchange information, news, or ideas
9. kilobit	i) a new thing or a new method of doing something

### 3.2. Try to give the definitions for the following words and word combinations into your native language.

A communication technology, a social network, a science laboratory, United States, a computer science, government, email, hypertext document, web browser.

## 4. Reading Practice

### 4.1. While reading the text give synonyms to the underlined words.

#### History of the Internet

The history of the Internet begins with the development of electronic computers in the 1950s. Initial concepts of wide area networking originated in several computer science laboratories in the United States, United Kingdom, and France. The US Department of Defense awarded contracts as early as the 1960s, including for the development of the ARPA (Advanced Research Projects Agency) project, directed by Robert Taylor and managed by Lawrence Roberts. The first message was sent over the ARPA in 1969 from computer science Professor Leonard Kleinrock's laboratory at University of California, Los Angeles to the second network node at Stanford Research Institute. It should be noted that, initially the proposed line speed was only 2.4 kbps (kilobits per second).

It should be noted that throughout the 1960's several organizations were working on technologies that proved valuable to creating the Internet. In fact, many of these technologies were created in parallel without the knowledge that others were researching similar concepts. Because of this fact, many historians state that most of the inventors that contributed to the Internet are to this day either unknown or unnamed.

During the 1970's the Internet enjoyed growth and several key technologies were developed. In the very early 1970's lots of experimenting took place and 19 other computers were hooked into the ARPA. For instance, as of 1972, there were a total of 23 host computers that were tied into the chain. However, the line speed was at 50 kbps. During 1970 and 1971, the Network Group completed its initial Host to Host protocol which was called Network Control Protocol or NCP.

Besides the growth of hosts on the network, 1972 would be an important year due to the fact that Ray Tomlinson of BBN created the basics of email including the ability to send and read messages.

During the 1980's the Internet grew exponentially, one reason included the various technical innovations such as more powerful and affordable computers and hardware that made the Internet more accessible to organizations, educational institutions and individuals as well the creation of organizations that helped manage the large and global community that was now on the net.

In the early 1980's ARPA was the most established computer network, but others existed, mostly as small programs for government or research purposes. One more network that was created was called CSNET (Computer Science Network) by the National Science Foundation. This network was specifically established for research institutions.

In 1983 two major events made using the Internet easier and more uniform than ever, they were the creation of DNS (Domain Name System) and the replacement of NCP protocol by TCP/IP. TCP/IP improved communications throughout the network and allowed all computers to communicate easily with one another.

During the 1990's, the Internet grew from a popular way to conduct communications for many research institutions to a social and economic phenomena. In 10 short years millions of users discovered the Internet and new applications were created. With the development of more powerful home computers and new types of software the Internet finally began to reach its true potential. Throughout the 1990's the Internet grew to hundreds of millions of computers around the world.

The World Wide Web (WWW) or commonly referred to as just the web is one of the most important innovations of the Internet. Generally speaking the web is a platform that makes it incredibly easy to interlink hypertext documents *which are accessible on the Internet. Today, almost everyone that uses the Internet can easily access the web using a simple web browser* such as MS Internet Explorer. A web browser enables the computer user to view web pages which contain all sorts of media including text, images, streaming video, sound files and hypertext links which enable a computer user to navigate from one page to another by simply clicking on a hypertext link.

**Note:**

BBN (body-to-body network) – схема комутації з автоматичною блокуванням  
 TCP (Transmission Control Protocol) – протокол керування передачею даних  
 IP (Internet Protocol) – протокол мережі, який дозволяє за маршрутизацією повідомлення між вузлами Internet  
 DNS (Domain Name System) – ім'я системи

## **5. Comrehension Check**

### **5.1. Insert the missing words and complete the sentences.**

1. ... with the development of electronic computers in the 1950s.
2. The first message was sent over wide area networking in ... from ... to ... .
3. The technologies that were worked out throughout the 1960's turned out ... .
4. In 1972 about 23 host computers were ... .
5. ... made the Internet more accessible to organizations.
6. In the early 1980's ... existed mostly as small ... for government or ... purposes.
7. TCP/IP improved ... and allowed ... with one another.
8. Today, almost everyone that uses the Internet ... such as MS Internet Explorer.

### **5.2. Answer the following questions.**

1. What line speed was originally proposed?
2. Many establishments were collaborating to create the single worldwide computer network throughout the 1960's, weren't they?
3. What happened to the Internet during the 1970's?
4. What system of rules was created during 1970 and 1971?
5. What made 1972 important in the network development?
6. Why did the Internet grow exponentially during the 1980's?
7. What computer networks existed in the early 1980's?
8. What incidents facilitated and standardized the Internet?
9. Why did the Internet transform to a social and economic thing in the 1990's?
10. What helped the Internet to fulfil its genuine potential?
11. Why is WWW the most important novelty of the Internet?

## **6. Conversational Practice**

### **6.1. Role-play the dialogue.**

*Fay:* Hey Jerry, how often do you use the Internet?

*Jerry:* Oh, I use it everyday! I check my email, read the news, chat with family and friends all around the world. I love the Internet!

*Fay:* Yeah, it's great, isn't it? Sometimes I stay online for hours. So, how do you connect to the Net?

*Jerry:* Usually I just dial 163 or 96600 to log on, and I get billed directly to my telephone account. It's quite convenient.

*Fay:* That must be slow! I have an ADSL connection, so I can download pictures and music.

*Jerry:* Well Fay, I'm going to get a high-speed connection too, just as soon as I'm as rich as you!

*Fay:* Poor, poor Jerry. I really feel sorry for you! Ha, ha!

*Jerry:* Don't worry about me. I can still do everything I want. Just today I went to the New York Times to read about what's happening back home, then I searched for some information about how to play tennis better, and finally I used some software called Pal Talk to chat with friends in France, Japan, and Argentina.

*Fay:* That's cool! You chat with them by typing text messages, right?

*Jerry:* Not only text, I do "voice chat" too. I have a microphone and speakers. It's like using a telephone, but a whole lot cheaper.

*Fay:* Hey, I'd like to try that too. Can I just go to [www.paltalk.com](http://www.paltalk.com)?

*Jerry:* Yes, that's right. Once you download their software, you can begin to chat right away. You can speak to people all over the world and all you need is a mic!

*Fay:* That sounds like a good way to practice English. But sometimes I need more structured English practice. Do you know any good sites specially made for students learning English?

*Jerry:* Well, you could try <http://www.teacherjoe.us> for various kinds of materials. You might be able to meet some fellow students there who can help you more.

*Fay:* Thanks Jerry, I think I'll try it out. Oh, I have to be going. You wouldn't happen to know which bus I should take to get to the Foreign Book Store, would you?

*Jerry:* I think you can go to [bjbus.com](http://bjbus.com) to find information on all the bus routes in town.

*Fay:* Too bad I don't have Internet wired directly to my brain! Now that would be REALLY convenient.

*Jerry:* Well, maybe some day Fay, maybe some day...

**Note:** ADSL – asymmetric digital subscriber line, a technology for transmitting digital information over standard telephone lines, which allows high-speed transmission of signals from the telephone network to an individual subscriber, but a slower rate of transmission from the subscriber to the network.

### **6.2. Role-play the dialogue with your partner “Skype in our everyday life”.**

## Unit XI. This is Belarus, Baby!

### 1. Complex Object

Subject + Predicate + Complex Object (Noun/Pronoun + Infinitive)

The combination of a noun in the common case or a pronoun in the objective case and an infinitive used after the predicate forms a complex object. The relation between the noun (pronoun) and the infinitive is that of subject and predicate.

*I saw the boy raise his hand.*

*I want you to know that it doesn't matter.*

The infinitive may be used as a part of a complex object after the following verbs: to feel, to have (= to get, to make), to hear, to notice, to see, to watch, to feel, to let, to make. After these verbs the infinitive has no particle 'to'.

*I heard him describe his new bedroom suite.*

*He makes his children go to bed early.*

After these verbs the particle 'to' is used before the infinitive: to want, to expect, to know, to suppose, to consider, to believe.

*He wanted me to help him choose a new computer.*

*I consider Bill to be Jack of all trades.*

*I expected him to paint the walls green.*

### 2. Entry Test

#### 2.1. Change the complex sentences into simple ones using complex objects.

*Model:*

*A: I think that the flat is very cosy.*

*B: I think the flat to be very cosy.*

1. I think that a shower is the most important convenience.
2. I think that our water supply is not good.
3. I saw that he pressed the bell.
4. I did not expect that they would come in time.
5. I watched how he spoke on the phone.
6. He heard that the telephone rang.
7. I saw that he took out his latch-key.
8. She believed that he had stolen her money to pay his debts.
9. He wants that this work will be done.
10. He wants that this work will have been done by Friday.

#### 2.2. Combine the following sentences using Complex Object.

1. They haven't seen. The railway accident occurred near the station.
2. I heard. They argued about different tastes in art.
3. I see. Your tastes differ greatly.
4. We heard. He made a report on his new discovery.

#### 2.3. Practise in using Complex Object after 'make'. Change the sentences according to the model.

*Model:*

*A: His mother advised him to write a story.*

*B: His mother made him write a story.*

1. His father advised him to quit smoking.
2. His brother advised him to get a new job.
3. Mary's teacher advised her to take part in the writing contest.
4. Her parents advised her to move to Chicago.

**2.4. Practise sentences with Complex Object after the verb 'want'. Say that you (he, she, they, etc.) want somebody to do the following.**

*Model:*

*A: I want to be introduced to Mr Laurie. (the host)*

*B: I want the host to introduce me to Mr Laurie.*

1. The patient wanted to be examined. (the doctor)
2. The man wants to be treated for rheumatism. (Doctor House)
3. He wished to be cured of his illness. (the specialist)
4. Usually English people don't like to be asked personal questions. (strangers)

**2.5 Combine sentences using Complex Object.**

*Model:*

*A: I heard him. He answered the door-bell.*

*B: I heard him answer the door-bell.*

1. He saw her. She burst into tears.
2. I haven't heard him. He called my name.
3. The nurse watched the boy. The boy cried.
4. I felt his hand. His hand shook.
5. We saw a man. The man pulled the door open.

**2.6 Practise in using Complex Object.**

**a. Say what you (he, she) would (should) like me (him, her) to do.**

*Model: to fix an appointment for someone for Monday*

*A: I would like you to fix an appointment for me for Monday.*

1. to have a good time at the party;
2. to arrange everything by the time I come back;
3. to show them the historical monuments of the city;
4. to tell me the news in brief.

**b. Ask a friend if he wants you to do the following. Work in pairs.**

*Model: to take care of the tickets*

*A: Do you want me to take care of the tickets?*

*B: Yes, do please.*

1. to come and help you with the packing;
2. to brief the pressman about the State Visit;
3. to show you some historical places of our city;
4. to entertain the guests;
5. to make a speech in Italian.

**c. Say that you want certain thing (to be) done.**

*Model: to answer a telephone call*

*A: I want a telephone call to be answered*

1. to publish the historical manuscripts;

2. to do the steak well;
3. to do the work properly;
4. to forget this incident;
5. to tell the story in brief.

**2.7 Read the extract from the poem pointing out complex objects. Learn the extract by heart.**

*The Wind*  
(by R. L. Stevenson)

I saw you toss the kites on high  
And blow the birds about the sky.  
And all round I heard you pass  
Like ladies' skirts across the grass.  
Oh, wind, a-blowing all day long,  
Oh, wind, that sings so loud a song!  
I saw the different things you did.  
But always you yourself you hid.  
I felt you push, I heard you call,  
I could not see yourself at all.  
O wind, a-blowing all day long!  
O wind, that sings so loud a song!

**3. Reading Practice**

**3.1. Read the text and comment this news. Say what possibilities you have at the BNTU for research work. Retell the article.**

*Text 1*

**Belarusian students create cheap bionic hand**

22.02.2018 14:27 Belarusian TV Channel

*Four students from the Belarusian National Technical University (the BNTU) have developed a prototype of the bionic hand.*

In future they plan to make a mass device that will help people who lost their upper limb. Now in Belarus only cosmetic prostheses are made. The bionic hand will perform various actions. The new prosthesis will not be as sophisticated as the Scottish analogue, however it will be much cheaper.

More than 1,700 people in Belarus live without upper limb, so the students from the BNTU have decided to help them.

Sensors are placed on the remaining limb. They capture pulses. Then the contraction of muscles transfers these impulses to an electronic card. The card transfers signal to the motors which subsequently bend fingers.

Alexei Kuznetsov, project manager, says: "Hand motions and holding of small objects are already available. This device will be a simplified version of the bionic hand. We understand that we cannot create a prosthetic hand that could compete with the Scottish analogue, for example, which costs around \$50,000. Another foreign analogue cost of such a hand is around \$20,000. The Belarusian guys want their prosthesis to cost no more than \$2,000.

Particular attention is paid to the hand's appearance. The students created a prototype, which allows crafting the mechanism of bionic hand's work.

Gleb Viazhevich, designer, says: "At the moment we have a mechanical part. So all the limb drives are functioning but the wires are pulled out to supply power in order to check the efficiency of the device. The drives will be further developed.

The next stage of improving the hand quality will be the development of a program that will scan a healthy hand. Based on the obtained data, it will model an optimal prosthesis of the lost hand. The ultimate goal of the project is to turn prosthesis into a mass device, which will be easily ordered and received.

### **3.2. Answer the questions**

1. What Belarusian project is the text about?
2. What type of prostheses exist in our country now?
3. What are differences between Belarusian and Scottish analogues?
4. How do Belarusian prostheses work? How much will it cost?
5. What do Belarusian developers pay attention to?
6. What is an ultimate goal of the project?

**3.2. While reading the text mark out all the stages of successful business running and try to plan your future Belarusian career. Make a summary of the text.**

#### *Text 2*

### **Famous Belarusian Company**

Wargaming Group Limited is an international game developer and publisher headquartered in Nicosia, Cyprus. The group operates across 16 offices and development centers. Initially focused on turn-based strategy and real-time strategy games, Wargaming switched to developing free-to-play online action games in 2009. The company's success came after the launch of its first online project, the military-themed team-based game *World of Tanks*.

Wargaming was founded by Victor Kislyi in 1998 in Minsk. He was a student of the Belarusian State University at that time. It was the very first step to success. The company started working on its first full-scale commercial project in March 2002 with launching the strategy game *Massive Assault*. In December 2008, the company released its first real-time strategy *Operation Bagration*. On August 12, 2010, the company released its first online title, *World of Tanks*. On April 12, 2011, *World of Tanks* was released in North America and Europe. Since that time began active global expansion for Wargaming. On July 26, 2011, the company opened Wargaming Group Ltd. with headquarters in Nicosia, Cyprus, in Paris, France, in Berlin, Germany. On August 3, 2011, the company created a direct presence in North America by opening an office in San Francisco.

Then the company developed online action game *World of Warplanes* the naval action online game *World of Warships*. Wargaming had grown to 900 employees throughout the world by 2016. In an annual report for the Cyprus Stock Exchange (CSE) in 2017, Wargaming's revenue was declared to be 217.9 million Euro, with a net



profit of 6.1 million Euro. In his numerous interviews, Victor Kislyi says that there are a lot of opportunities in Belarus for creating business in IT sphere.

#### **4. Conversational Practice**

##### **4.1. Role-play the dialogue.**

*At the Wargaming.net League Grand Final 2017, where players from all over the world fought against each other for the top prize of US\$300,000, an American interviewer managed to sneak out Victor Kislyi, CEO of Wargaming, to get his insights of the industry, and the company's roadmap.*

**I:** If you remember back in 2011, you mentioned in an interview with a PC Gamer that it would take EA (evolutionary algorithm) two and a half years just to replicate the success of World of Tanks. Will you still stick by or change this statement today?

**Victor:** This kind of product is difficult to implement for any company. It took us a couple of years to make World of Warplanes and almost two years to make World of Tanks for the Xbox 360. Those projects are very complicated, which was what I meant. It's not just about making a game, put it in a box and then put it for sale. After you do this, you need to start with updates. For example, World of Tanks has had 23 updates since its launch and each update has to make the game look better than it was previously because players compare it not to its release version, but the version four and a half years after. And you need servers around the world. You cannot support American users from Russia. If you want to be in the Japanese market, you need offices in Tokyo.

When I said EA, I didn't mean EA couldn't make games. They can make games. Just that any company will take more time than two and a half years to make this game and to serve it around the world. Today we have more than 3,000 staff in Wargaming spread across 16 offices around the world. It takes time to hire these people. You can buy a company for that, but you still have to integrate it and that will take time.

**I:** And the company has seen some explosive growth over the past two years. You've bought companies like Big World, Day One and Gas Powered Games to tap on their expertise in the US market. How has that worked out so far? We haven't heard of any developments from that side.

**Victor:** Right now, our resources are still stretched. It's a big business, and we are transcontinental so we have 24-hour time zones around the world. So it takes some time to build up this level of management. When you buy a company, you have to integrate and bring the company inside of your existing culture. We have so many different cultures inside Wargaming, I mean, as I mentioned earlier, we have staff from Singapore to Australia to Japan and Russia, Belarus and Germany. I don't say that we are not going to expand and buy other companies, but on the other hand, there's no such thing as a market of companies that you can simply 'go and buy'. Sometimes it's just luck and a coincidence when the opportunity comes by. If we see that the company or a person fits to our work, we have to play it culturally.

**I:** What is Gas Powered Game doing for Wargaming right now?

**Victor:** Chris Taylor has been in our big Wargaming family for more than a year. We will work together with Chris Taylor to make some big games that will rock the world. That's what we agreed upon when we shook hands, which was about a year ago. We don't want to copycat World of Tanks, so Chris Taylor is not doing a clone of that. The game will most probably be military-based, have PvP (Packet Video Protocol),

online features and will be massive. There are so many elements you have to do right. And you can only do it like this. You have an idea, you prototype it and then you test it using people from the streets. Focus testing. And only when that shows positive results, when they can't stop playing... Many players have played World of Tanks for over four years now, especially in Russia. We want Chris Taylor's game to be like that. It's not that I don't want to share with you what their latest developments are, it's just that I'm also part of the choosing and focus-testing process. I go to Seattle from time to time and we're trying to find this new direction that nobody has found before.

**I:** Will the company ever branch into the role of a publisher for external developers?

**Victor:** Structurally and technologically, we have the capacity to do so. We have offices in Singapore, Tokyo, South Korea and other parts of Asia and Europe, Russia and America. We can publish any game, it's just about how good the game is. I'm not saying no. Maybe somebody comes to us and asks us to publish a game because they don't have the money or capacity. We will look at it and believe me, people are coming to us pretty much everyday. It's just you have to compare it with World of Tanks and think how this game will fit our military-themed games.

We have been making games for 15 years, and we've gone through this publisher and developer idea many times, running around the world trying to find a publisher for World of Tanks. We realised this developer-publisher thing worked well for the retail-based game, but for online services, where it never stops with the constant updates, publisher and developers become enemies. That's why we went on our own and brought our stuff online ourselves. It's not about releasing or publishing the game, as much as it is about us delivering this game online to. It's a process where developing and publishing is blended in. Like eSports, we brought developers here so that they could speak with the best players to learn what they wanted to change. Our eSports mode is not perfect, some things we would love to change. So it's a never ending process that goes on every day.

So about us publishing is an external game, I don't deny it. The game and the theme have to fit. Maybe in the future, but not now.

**I:** There is the Play Station 4 and the Xbox One, and the Oculus Rift on new high-end PCs. Are you always in-touch with these new devices? And do you think these new hardware and input devices would fit into your games' development?

**Victor:** Yes. With our background and our company's technologies, we believe such devices are the future. But as a free-to-play game, we should have critical mass, for example, the Xbox One has not yet sold enough units to justify allocating precious resources to that platform. You have to collect millions of players to pay for the programmers and the servers. With the Oculus Rift, it's the same. The CEO of Oculus Rift showed me the device last time with some impressive games, but just right now there is no install base. For mobile, yes. We need to go to mobile. You may think we are PC game developers and most of our players are still on PC, but there's something about such technology. It's changing very fast. Maybe in five years, we will have lasers or holographic reality. If it becomes mainstream, we will make games with that. We have to keep up to date. For now, let the Oculus Rift and the other platforms become a larger install base, before we commit to them.

**I:** But rather than having to wait, isn't there any consideration for Wargaming to become a first mover?

**Victor:** You cannot do everything quickly in long term. Many players, especially Russians, have played this game for a long time, so it's a long running business. Big budgeted franchise MMO launches with millions of players during the first couple of days and then *poof*...they are gone... So, no. We are not afraid to be the second instead of the first mover. It's about quality. The game is free. Anyone can try it. Sooner or later gamers will hear about it. If the game is not good, after buying and downloading it, you will have a lot of bugs and problems. So you just drop it. It's about the quality of the game, and we are very confident about that.

**Notes:**

CEO (Chief Executive Officer) – галоўны выканаўчы дырэктар

Gas Powered Game – амерыканская кампанія, заснаваная Крысам Тэйларам, якая распрацавала Total Annihilation.

MMO (Mobile Module) – мабільны працэсарны модуль

eSports mode – камп'ютарныя спартовыя гульні

League Grand Final – графік фінальных спаборніцтваў

EA (evolutionary algorithm) – алгарытм праграмы для камп'ютарнай гульні

**4.2. Answer the following questions.**

1. What was the reason for the interview?
2. How many updates had World of Tanks have since its launch?
3. How long does it take to develop EA?
4. According to Victor's words you can support American users from Russia, can't you?
5. What companies were joined to Wargame?
6. What should be done to integrate new company into the corporation?
7. What new innovations will a new game by Chris Taylor have?
8. What should be done before putting out the game into the market?
9. Why does V. Kislyi go to Seattle from time to time?
10. Who is a publisher? Why do the developers of computer games need to cooperate with him?
11. Why do a publisher and developers become enemies while cooperation?
12. Is V. Kislyi going to be a publisher in future? Why?
13. How do new hardware and modern input devices for PC influence the development process in Wargame?
14. What does CEO of Oculus Rift show to another IT companies?
15. What does V. Kislyi predict for PC games in five years?
16. Why doesn't V. Kislyi want to develop MMO (Mobile Module) version for his games?
17. What does V. Kislyi say about the quality of his game?
18. Do you play war games on PC? What is your attitude to V. Kislyi's business?
19. Why do people want to play war games?
20. What games would you launch on V. Kislyi place?

**4.3. Role-play the dialogue with your partner “Let's play, let's earn!” Use all the information from the previous exercises.**

**4.4. Watch PP presentation “Belarusian gaming project” and prepare a report for your groupmate about V. Kislyi's company. Use the information from the text “Famous Belarusian Company”, exercise 4.1 and illustrative material from the presentation.**

## Unit XII. Belarusian Outstanding Researches

### 1. PowerPoint Presentation

#### What Makes a PowerPoint Presentation Effective?

Knowing how to use PowerPoint and work within it quickly is helpful, but more important is making a good presentation that hits all your goals, as well as delivering it effectively. A great PowerPoint presentation is:

- ✓ **Prepared to Win:** Researched, planned, and prepared professionally, so you can deliver the right message to your target audience effectively.
- ✓ **Designed Correctly:** With points that are illustrated, and visually stand-out, without overwhelming your audience or unnecessarily complicating your message.
- ✓ **Practiced to Perfection:** Rehearsed and timed so your points land as practiced with your live audience.
- ✓ **Delivered With Poise:** Presented with a relaxed inner-calm and confident outward projection, while communicating warmth, excitement, and energy.
- ✓ **Free From Mistakes:** Devoid of cheesy clipart, nonessential flashiness, miscues like reading directly from promoters, and other easy to avoid problems.

#### Killer Presentation Preparation Tips – To Get Started Right

Before even opening PowerPoint, start by addressing these things. These tips will ensure that you are fully prepared for your presentation.

##### 1. Highlight What's Most Important

A presentation covers the most crucial pieces only. Whatever you've been working on that lead to this – a paper, a work project, a new product design – doesn't need to be shared in its entirety. Pick key points, and put the rest in the "Appendix" to refer to during the question-answer session at the end.

##### 2. Know Your Audience

How you talk to a room full of medical professionals should be different from the way you address a room full of young businessmen. Everything, in fact, is different. Your topic selection, the language you use, the examples you give to illustrate points, and the little bits of humor included should be tailored specifically with your target audience in mind.

##### 3. Keep Your Slides Simple

This is one of the most important PowerPoint presentation tips to follow when designing your slides. Keep in mind that less is more effective. A cluttered slide is distracting. It causes confusion for an audience: Which part of the slide should I focus on? Should I read the slide or pay attention to the presenter? On the other hand, a simple, visually appealing slide will engage your audience, keeping them on track with your main points.

##### 4. Limit Words on Your Slides

Less is more effective! If possible, avoid bullets altogether. Otherwise minimize them to just a few simple words. The audience should be listening, not reading.

##### 5. Use High-Quality Photos and Graphics

One of the more important tips for PowerPoint presentations is to be sure to use high-quality photos and graphics. People are more likely to take you seriously if your presentation is visually appealing. They will view a more attractive PowerPoint as more effective.

### **6. Choose Appropriate Fonts**

Fonts are an important part of engaging your audience. Fonts and typography choices have a subconscious effect on viewers, causing them to characterize your company's presentation and brand either positively or negatively.

### **7. Limit Punctuation**

This is not the place for exclamation points. You should emphasize your points while speaking.

### **8. Rehearse, Rehearse and Rehearse!**

Delivery is probably more important than the actual content. Just do it. Again and again. Experiment with pauses, gestures and body language. You should practice around one hour for every minute of your speech.

### **9. Practice With a Timer**

Consistency is key to an effective PowerPoint presentation. Timing should be similar (ideally the same) each time you rehearse. It is very important in case of participating in a scientific conference where time-limit should be followed.

### **10. Pause More Often**

Pausing more often, allows main points to be emphasized and for information to sink in. You need to let key points breath a little before rushing into the next section.

### **11. Modulate!**

Do not speak in monotone for your whole presentation. Be conscious to raise and lower your voice tone. Otherwise people will tune you out.

### **12. Practice in Front of a Mirror**

What you look like is just as important as how you sound. Pretend as though you are just having a normal conversation, and allow your hands to move with your speech emphasizing your points.

## **2. Entry Test**

**2.1 Summarize the information about creating a professional PowerPoint presentation and make 5 min report “12 tip points for effective PP presentation”. Try to represent not only successful slides but also give the examples of typical mistakes.**

**2.2. Watch presentations “Internet and society” and “Uni-cub” on CD and say:**



1. What target audience is each presentation prepared for?
2. What is the main goal of each presentation?
3. Which of the two brings its message to the target audience effectively?
4. Are both of the presentations designed correctly? Why?

**2.3. Choose one of the two given presentations, improve it in appropriate way and**

**make a report for your groupmates. Remember that your time-limit is 7 min.**

### **3. Word Study**

#### **3.1. Give three forms of the following verbs and revise their meaning.**

To acquire, to consider, to impoverish, to own, to engrave, to siege, to become, to return, to retire, to appear, to merge, to retreat, to aim, to investigate, to lunch.

#### **3.2. Match the words with their definitions.**

1. compatriot	a) a person who establishes an institution or settlement
2. founder	b) the branch of physics or technology concerned with the mechanical properties of gases
3. pneumatics	c) a group of soldiers whose task is to guard the town or building where they live
4. garrison	d) a device containing gunpowder and other combustible chemicals that causes a spectacular explosion when ignited, used typically for display or in celebrations
5. ballistics	e) a person who manages or superintends an organization or activity
6. firework	f) a thing or substance that causes something to move or be driven forward or outward, in particular
7. Cossack	g) the study of the movement of objects that are shot or thrown through the air, such as bullets fired from a gun
8. delta wing	h) an examination, report, survey or evaluation
9. review	i) a person who comes from the same country
10. propellant	j) a member of a people of southern Russia, Ukraine, and Siberia, noted for their horsemanship and military skill
11. superintendent	k) a triangular sweptback aircraft wing

#### **3.3. Match the synonyms.**

1) to combine, 2) wisdom, 3) to take part, 4) to consist, 5) sketch, 6) to describe, 7) artillery fire, 8) to annex, 9) to appoint, 10) chief, 11) retributive, 12) rocket, 13) image.

a) intelligence, b) to include, c) to collect, d) participate, i) to add, f) principal, g) missile, h) fame, i) punitive, j) to assign, k) volley fire, l) drawing, m) to define.

### **4. Reading Practice**

**4.1. Whom of outstanding Belarusian scientists do you know? What are they famous for? Read two texts and write out all geographical names. Say where these cities and countries are located.**

#### *Text 1*

#### **Kazimir Semenovich**

*Kazimir Semenovich (1600 – 1651) – Belarusian compatriot, military engineer and theorist of artillery. He is considered as one of the founders of world rocket ballistics and astronautics.*

There is no exact information on Semenovich's date of birth. Presumably, he was born in 1600, but it's known that he came from an impoverished gentry family of the Semenoviches who owned some land in Vitebsk region. Semenovich considered himself as Lithuanus. He had good knowledge of arithmetics, geometry,

mechanics, hydraulics, pneumatics, architecture, physics and chemistry as well as fine arts, sculpture, engraving etc. He is believed to have acquired such encyclopedic knowledge (right in the spirit of the Renaissance) in Vilnia University.

Kazimir Semenovich was a participant of the war between Russian state and Poland (1632 – 1634) and the siege of the Moscow garrison in May, 1634, a participant of the battle of Rzech Pospolita forces against the Tatars at the Akhmatovo the 1<sup>st</sup> of January in 1644, where he was a witness of the Tatar fireworks. In 1645 he went to the Netherlands and in the same year took part in the siege of different cities by the troops of Frederick Henry of Oranski. In 1648 he took part in the war with the Cossacks.

Although his parents wanted him to become a politician, Semenovich strongly believed that it was artillery, which combined both science and art as well as all the wisdom of the world. He studied artillery in Holland, took part in the war between Holland and Spain. On returning home, he took a post of engineer of the Crown artillery and then a lieutenant-general. After he retired he went back to Holland to publish his treatise “The Great Art of Artillery”. Kazimir Semenovich’s work was first published in the Latin language in 1650. One year later the second edition in French appeared. The book consisted of five parts and included a plenty of engravings based on the author’s sketches. The book described the multi-staged rocket, the delta wing and the rocket system of volley fire. Original Belarussian words such as “berkavets” and “baryla” (old units of measurement) became international scientific terms. This study attracted the attention of experts in different countries and was translated into numerous European languages. During centuries this work had been not only one of the major scientific works in Europe, but also one of the most demanded textbooks on artillery.

Soon after the book had been published, he died. The causes of death are unknown.

## ***Text 2*** **Barys Kit**

*Barys Kit (April 6, 1910 – February 1, 2018) is a famous Belarussian and American rocket scientist.*

Kit was born on the 6<sup>th</sup> of April 1910 in Saint Petersburg, Russian Empire in the family of an employee at the Post Telegraph Department, a Belarussian in origin. In 1918 Kit’s family moved to their native village of Aharodniki (now merged with the town of Karelitchy, Hrodna Region).

After graduation from the Navahrudak Belarussian Lyceum in 1928 Kit entered the physics and mathematics faculty of the Vilnius University. After graduation in 1933 he worked as a teacher at the Vilnius Belarussian Lyceum. In 1939 he was appointed its Principal. After the Vilnius Region had been annexed to Lithuania in 1939, Kit returned to his native region. There he was the Principal of the Navahrudak Belarussian High School and later a superintendent of a large school system district. Hundreds of elementary schools and several dozen high schools were opened in the region within a year due to Kit's direct participation.

During the Nazi Occupation of Belarus (1941–1944) Kit worked as a teacher in the village of Lebedzeva near Maladzyechna and later as a director of the Pastavy Teachers' College. He was suspected of having partisan connections and was arrested by the German SD punitive bodies. He spent a month in prison and was saved from execution by his former pupils. In 1944 Kit and his family with the retreating German army moved to Germany, first to Offenbach-Lindau in Bavaria, then to Munich. In 1948 Kit emigrated to the United States. In 1950 he settled in Los Angeles and worked there as a chemist in various companies.

In the mid-1950s Kit began his scientific activities in the field of astronautics. For 25 years he worked in the American space research program. As a mathematician and systems analyst, he took part in projects aimed at the development of intercontinental missile systems. Kit took part in all the American space research projects, including mathematical support of the mission to the Moon.

In 1972 Kit moved to Frankfurt-am-Main in Germany. In 1982 Kit earned a Ph.D. in mathematics and science history from the University of Regensburg.

Kit is the author of the first manual on rocket propellant “Rocket Propellant Handbook”, published by McMillan in 1960. The book received many positive reviews and is referenced in rocket science publications even today.

Kit is a long-standing member of the American Institute of Aeronautics and Astronautics, an honorary member of the Hermann Oberth German Astronautics Society Board of Directors, a member of the International Astronautics Academy in Paris, Vice-President of Eurasian International Astronautics Academy, Professor Emeritus of Maryland University, Honorary Doctorate of Science Hrodna State University and Navahrudak's honorable resident.

A “time capsule” with Kit's name was immured in the wall of Capitol in Washington, D.C. Kit has always remained a conscious Belarusian: “Everything I did in my life – I did for my homeland and its fame”.

## **5. Comprehension Check**

**5.1 State whether the following statements are true or false according to the texts.**

**Correct if necessary.**

1. Kazimir Semenovich was born in Republic of Lithuania.
2. Both Barys Kit and Kazimir Semenovich are American rocket scientists.
3. Semenovich was greatly interested in large-caliber guns used in warfare.
4. Semenovich was both an active politician and a qualified engineer.
5. Kazimir Semenovich's treatise “The Great Art of Artillery” was a thorough and detailed description of artillery inquiries.
6. After the emigration to the United States Kit continued to work in the sphere of education.
7. Barys Kit was involved in operations connected with the creation of tube-shaped weapon travelling long distances through the air and exploding when having reached its target.
8. Barys Kit never joined any organizations related to space travel and exploration or connected with the design and the construction of flying aeroplanes.



**5.2. Answer the following questions.**

1. Did Barys Kit and Kazimir Semenovich have a chance to study at the University?
2. Who is regarded as one of the founders of world rocket ballistics and astronautics?
3. What military operations did Semenovich take an active part in?
4. Where was Semenovich's scientific work "The Great Art of Artillery" published?
5. What kind of information is it possible to find in treatise "The Great Art of Artillery"?
6. Why did Barys Kit have a significant influence on the development of education in the Navahrudak region?
7. What was Kit's occupation in the mid-1950s connected with?
8. What do Kit's reference books deal with?
9. What container is buried in the stone structure of the federal US legislature building?

**6. Conversational Practice**

- 6.1. Prepare a PP presentation about one of the Belarusian famous scientists. Take into account all the information given in this unit to make your presentation effective.**

# РАЗДЕЛ КОНТРОЛЯ ЗНАНИЙ

## ОБРАЗЦЫ ТЕМАТИЧЕСКИХ ТЕСТОВ

### TEST 1<sup>st</sup> Term Var 1

#### I. Skim the text.

Dramatically stated a microprocessor is the heart, soul as well as the brain of a computer. It includes all the logical functions, data **storage**, timing functions, and interaction with other peripheral devices.

The evolution of the microprocessor has been one of the greatest achievements of our civilization. In some cases, the terms 'CPU' and 'microprocessor' are used interchangeably to **denote** the same device. Like every genuine engineering marvel, the microprocessor too has evolved through a series of improvements throughout the 20th century. A brief history of the device along with its functioning is described below.

#### *Working of a Processor*

It is the central processing unit, which coordinates all the functions of a computer. It generates **timing** signals, and sends and receives data to and from every peripheral used inside or outside the computer.

The commands required to do this are fed into the device in the form of **current** variations, which are converted into meaningful instructions by the use of a Boolean Logic System.

It divides its functions in two categories, logical and processing.

The arithmetic and logical unit and the control unit handle these functions **respectively**.

The information is communicated through a bunch of wires called buses.

The address bus carries the 'address' of the location with which communication is desired, while the data bus carries the data that is being exchanged.

#### II. Decide True or False according to the text.

1. The evolution of the microprocessor has been one of the greatest achievements in chemistry.
2. In some cases, the terms 'CPU' and 'microprocessor' are considered as fungible to denote the same device.
3. Central processing unit coordinates all the functions of a computer.
4. Boolean Logic System divides user's commands into two categories.

#### III. Choose the contextual meaning.

1. **storage** а) занатаванне б) змяшчэнне с) захоўванне
2. **denote** а) вылучаць б) азначаць с) дагаджаць
3. **timing** а) тактавы б) сінусны с) зменны
4. **current** а) атрыманыя б) бягучыя с) сучасныя
5. **respectively** а) аднолькава б) азначана с) адпаведна

#### IV. Choose the best translation.

*The address bus carries the 'address' of a signal location with which communication is desired.*

- а) Адрасная шына змяшчае адрас сігналу, што патрэбен карыстальніку для камунікацыі.
- б) Адрасная шына змяшчае адрас сігналу, які запатрабаваны карыстальнікам.
- с) Адрасная шына змяшчае адрас сігналу, што патрэбен карыстальніку для сувязі.

**V. Give 3 forms of the irregular verbs from the text.****VI. Insert the missing forms.**

Verb	Noun	Adj
	dryness	
discover		
		respective

**VII. Put the words from the list into gaps.**

1.perform 2.complete 3.son 4.engine 5.was 6.political

Charles Babbage (a) a British math professor. It was he who thought of building an analytical engine, which was the 1st mechanical computing (b) that could store programs. He proposed this idea in the year 1822. Due to lack of funds, he could not (c) this project. In the year 1837, he proposed the idea again, which encompassed the Arithmetic Logic Unit (ALU), basic flow control, and integrated memory. It is really extraordinary for a person to think of building a machine, which was way ahead of its time. Unfortunately, this project too was never completed because of (d), legal, and financial obstacles.

However, in the year 1910, Henry Babbage, Charles Babbage's youngest (e), is said to have completed a part of this engine that was designed to (f) some basic calculations.

**VIII. Choose the best summary to the text.**

During our evolutionary journey from "Homo erectus" to "Neanderthal" and then to "Homo sapiens" we have come a long way. Because of our continuous quest for more amenities and better standard of living, we have been able to invent and discover many new things. The nineties witnessed a major revolution with the invention of the first electronic digital computers. Until then, the term Internet was practically unknown to most people. However, today, the Internet has become the most powerful tool for people around the world. With the advent of Internet, our earth has virtually reduced in size and has attained the form of a global village.

A) It says about the main advantages of the Internet.

B) The invention of many new things is the best way to make peoples' life more comfortable.

C) Electronic digital computers future is predicted.

**IX. Make double translation.**

1. Search engines make information accessible on various subject matters such as, government law and services, trade fairs and conferences, market information, new innovations and technical support, and even dispense advice on love and relationships matters.

2. Flash drives are often used in products that operate on low power and those, which may have to undergo harsh conditions.

**X. Thinking in English. Choose the proper end according to the story written.**

1. Don't put off until tomorrow what you can do...

a) now b) yourself c) today

2. Don't judge a book by its...

a) writer b) cover c) price

**TEST 1<sup>st</sup> Term Var 2****I. Skim the text.**

The invention of a transistor in 1947 was a significant development in the world of technology. It could perform the function of a large component used in a computer in

the early years. Shockley, Brattain, and Bardeen are credited with this invention and were **awarded** the Nobel prize for the same. Soon, it was **found** that the function this large component was easily performed by a group of transistors arranged on a single platform. This platform, known as the integrated chip (IC), turned out to be a very crucial achievement and brought along a revolution in the use of computers. ICs proved beyond doubt that complex functions could be integrated on a single chip with a highly developed speed and storage capacity. Later, complex developments in the IC led to the addition of more complex functions on a single chip. Finally, Intel corporation's Ted Hoff and Frederico Fagin were **credited** with the **design** of the first microprocessor. The work on this project began with an order from a Japanese calculator company Busicom to Intel, for building some chips for it. Hoff felt that the design could integrate a number of functions on a single chip making it feasible for providing the required functionality. This was the beginning of a new era in computer applications. The use of mainframes and huge computers was scaled down to a much smaller device that was affordable to many.

Earlier, their use was limited to large organizations and universities. With the advent of microprocessors, the use of computers trickled down to the **common** man.

## II. Decide True or False according to the text.

1. The development of a transistor in 1947 was a significant development in the world of technology.
2. A transistor could perform the functions of many units in a computer.
3. A group of transistors arranged on a single platform is known as an integrated chip.
4. Intel corporation's Ted Hoff and Frederico Fagin were praised with the design of the first microprocessor.

## III. Choose the contextual meaning.

1. **awarded** a) абаронены b) выдадзены c)узнагароджаны
2. **found** a) знойдзена b) заўважана c) прызнана
3. **credited** a) вылучаныя b) упаўнаважаныя c) аплочаныя
4. **design** a) узор b) праект c) распрацоўка
5. **common** a) шараговы b) агульны c) просты

## IV. Choose the best translation.

*The use of mainframes was scaled down to a much smaller device that was affordable to many.*

- a) Выкарыстанне гравасткіх кампутараў было выціснута нашмат меньшымі прыладамі, якія былі зручныя для выкарыстання.
- b) Лягчэйшыя для выкарыстання кампактныя прылады выціснулі граваздкія кампутары.
- c) Выкарыстанне мейнфрэймаў было цалкам спрошчана з-за меньшага аб'ёму новых прыладаў.

## V. Give 3 forms of the irregular verbs from the text.

## VI. Insert the missing forms.

Verb	Noun	Adj
	provision	
solve		
		continous

## VII. Put the words from the list into gaps.

1. was
2. first
3. goes
4. wider
5. engineers
6. smartphones

Mobile phones, particularly the (a) that have become our inseparable companions today are relatively new. However the history of mobile phones (b) back to 1908 when a US Patent (c) issued in Kentucky for a wireless telephone. Mobile phones were invented as early as the 1940s when (d) working at AT&T developed cells for mobile phone base stations. The very (e) mobile phones were not really mobile phones at all. They were two-way radios that allowed people like taxi drivers and the emergency services to communicate. Instead of relying on base stations with separate cells (and the signal being passed from one cell to another) the first mobile phone networks involved one very powerful base station covering a much (f) area.

**VIII. Choose the best summary to the text.**

Modern-day flash drives are equipped with security measures such as encryption or even biometrics. They come with a protective casing which makes them robust. Though the number of erase and write cycles they can undergo is limited, it is in thousands. They have an added advantage because of their storage capacity, speed, portability and low power consumption. It's clear that the disadvantages of flash drives are negligible when compared with the ease of use they offer. Flash drives are among the most popular storage devices today. They can hold boot programs, they can store important documents, projects and homework, they can store songs, movies and images, and they can treasure memories.

- A) It says about the main advantages of flash drives.
- B) Main characteristics of flash drives are presented in the text.
- C) The storage capacity of flash drives is given in the text.

**IX. Make double translation.**

1. Flash drive memory has a grid of columns and rows and a cell having two transistors at each point of intersection in the grid.
2. Bluetooth is a technology whereby devices communicate wirelessly to achieve data transfer at the rate of 720 kbps within a range of 10 to 100 meters.

**X. Thinking in English. Choose the proper end according to the story written.**

1. God helps those who help ...
  - a) themselves b) yourself c) himself
2. Keep your friends close, and your enemies ...
  - a) farther b) further c) closer

**TEST 2<sup>nd</sup> Term Var. 1**

**I. Skim the text.**

The biggest beneficiary of advancing technology has been the health care sector. Medical research has led to the end of many diseases and **ailments**, and also to the discovery of many drugs and medications that have helped prevent many lethal diseases and disorders. New medicines have led to the **demise** of many illnesses and diseases. Medical research has become supremely advanced, and every ailment seemingly has a cure, or at least a prevention.

Personal records are easier to study now, and medical research has advanced magnificently. Millions of lives have been saved as a result of this. Here are some of the benefits of technology in this industry. Communication between patients and doctors has become easier, more personal, flexible, and sensitive. Personal records of patients are **maintained**, which makes it easier to study symptoms and carry out

diagnosis of previously unexplainable **conditions**. Several medical **aids** have helped people overcome many medical conditions which they had to live with earlier. Costs of medical procedures and operations have fallen dramatically over the past decades. Positive effects of technology on society due to a much-efficacious health care system are clearly visible.

**II. Decide True or False according to the text.**

1. Modern technologies in medicine can prevent many lethal diseases and disorders.
2. New medicines have led to the collapse of many illnesses and diseases.
3. Personal records of patients make it more difficult to study symptoms.
4. Positive effects of technology on society due to a fruitful health care system are clearly visible.

**III. Choose the contextual meaning.**

1. **ailment** а) нудота б) непрацаздольнасць с) захворванне
2. **demise** а) знікненне б) стварэнне с) заснаванне
3. **maintain** а) вывучаць б) падсумоўваць с) захоўваць
4. **condition** а) абумоўленасць б) захворванне с) умова
5. **aid** а) мэта б) сродак с) лекі

**IV. Choose the best translation.**

Knowledge is to easily procured with the help of Internet technology now.

- а) Веды лёгка атрымаць сёння пры дапамозе інтэрнэт-тэхналогій.
- б) Працэс набыцця ведаў мусіць спрасціцца пры дапамозе інтэрнэт-тэхналогій.
- с) Веды павінны атрымлівацца без аніякіх складанасцяў пры дапамозе інтэрнэт-тэхналогій.

**V. Put all types of questions to the first sentence of the text.**

**VI. Insert the missing forms.**

Verb	Noun	Adj
protect		
	resistance	
		wide

**VII. Put the words from the list into gaps.**

1. was 2. large-scale 3. it 4. development 5. popular 6. by

The 1990s saw a (a) application of microprocessors in the personal computer applications developed (b) the newly formed Apple, IBM, and Microsoft Corporation. (c) witnessed a revolution in the use of computers, which by then, were a household entity. This growth (d) complemented by a highly sophisticated (e) in the commercial use of microprocessors. In 1993, Intel brought out its 'Pentium Processor' which is one of the most (f) processors in use till date.

**VIII. Complete the following sentences using an appropriate form of the verb.**

1. Suddenly she gave a loud scream and ... to the ground. (fell / had fallen / has fallen)
2. After questioning he ... to go home. (allowed / was allowed / had allowed)
3. They would have won if they ... a bit harder. (played / had played / play)
4. A little squirrel ... (was frightened / had been frightened / have been frightened) when a helicopter ... (landed / had landed / was landed).
5. Although they ... defeated, they did not lose heart. (were / are / have been)

**IX. Make the first, second or third conditional.**

1. (Third) If the students (not/be) late for the exam, they (pass).
2. (Third) If the weather (not/be) so cold, we (go) to the beach.
3. (Second) If she (have) her laptop with her, she (email) me.

4. (First) If she (not/go) to the meeting, I (not/go) either.
5. (Third) If the baby (sleep) better last night, I (not/be) so tired.
6. (First) If the teacher (give) us lots of homework this weekend, I (not/be) happy.
7. (Second) If Lucy (have) enough time, she (travel) more.
8. (First) If the children (not/eat) soon, they (be) grumpy.

**X. Write down 5 sentences about modern IT project in Belarus.**

### TEST 2<sup>nd</sup> Term Var. 2

#### I. Skim the text.

Electronic communication is a form of communication that is used for the transfer of **data**, images, and signals, etc. through wire, electromagnetic energy, radio, photoelectronic or photo-optical systems. The fast-track popularity of electronic communication is courtesy its accuracy, unmatched ease of use, and comfort. However, there also exists a **flip side** to the scenario as there are minus points that contribute to its reputation as well.

It was successfully implemented for the first time on the ARPANET in 1971 by Raymond Samuel Tomlinson. Electronic communication is not only a novel **tool**, it also serves to be an interesting **mode** of communication. However, while being a crisp form of conveying messages, it has a facet that inclines toward the negative. We as individuals are so involved in tracking 'world records', that retaining interest in sustaining immediate relations confers to a no dice situation. Internet tete-a-tete rises a notch above the personal ties, the latter becoming a quaint drollery of sorts.

#### II. Decide True or False according to the text.

1. Electronic communication is a form of communication that is used for the transmission of data, images and signals.
2. Electronic communication is possible only with the help of photoelectronic or photo-optical systems.
3. Internet tete-a-tete rises a notch above the personal relationships, the latter becoming an entertainment.
4. Modern communication technologies aren't a crisp form of conveying messages.

#### III. Choose the contextual meaning.

1. **data** а) інфармацыя б) дадзеныя с) дата
2. **flip side** а) зваротная паверхня б) іншы бок с) зваротны бок
3. **implement** а) рэалізоўваць б) выконваць с) выпрацоўваць
4. **tool** а) прыстасаванне б) абсталяванне с) сродак
5. **mode** а) мэта б) форма с) рэжым працы

#### IV. Choose the best translation.

We as individuals are so involved in tracking 'world records', that retaining interest in sustaining immediate relations confers to a no dice situation.

- а) Асоба на сучасным этапе гэтак уцягнута ў асочванне "сусветных рэкордаў", шт о захаванне цікавасці да падтрымання асабістых зносін прыводзіць да бяс-пройгрышнай сітуацыі.
- б) Асоба гэтак уцягнута сёння ў асочванне "сусвет-ных рэкордаў", што захаванне цікавасці да падтры-мання наўпростых зносін прыводзіць да непаразу-мення.
- с) Індывідумы гэтак уцягнены ў асочванне "сус-ветных рэкордаў", што захаванне цікавасці да

падтрымання найпростых адносін прыводзіць да бяспройгрышнай сітуацыі.

**V. Put all types of questions to the second sentence of the text.**

**VI. Insert the missing forms.**

Verb	Noun	Adj
confer		
	inclination	
		limitless

**VII. Put the words from the list into gaps.**

1. technology 2. it 3. other 4. at 5. is 6. purpose

Bluetooth (a) a miracle in mobile computing. Devices discover each (b), form a piconet, and start communicating. Know how Bluetooth works and understand its applications, advantages, and limitations.

Bluetooth is a (c) whereby devices communicate wirelessly to achieve data transfer (d) the rate of 720 kbps within a range of 10 to 100 meters. (e) operates in the unlicensed ISM (Industrial Scientific and Medical)

band at 2.4 gigahertz.

Bluetooth was developed with the (f) of creating a single digital wireless protocol, capable of connecting multiple devices and getting over synchronization issues between them.

**VIII. Complete the following sentences using an appropriate form of the verb.**

1. Our teacher taught us that virtue ... its own reward. (is /was/will be)
2. The teacher asked the boys whether they ... the problems. (had solved / have solved / will solve)
3. He declared that he would not believe it even if he ... it with his own eyes. (see / saw / would see)
4. The room ... but the police failed to find anything suspicious. (searched / was searched / had been searched)
5. The government has announced that taxes ... (would be raised / will be raised / will raise).

**IX. Make the first, second or third conditional.**

1. (First) If I (not/go) to bed soon, I (be) tired in the morning.
2. (Second) If I (want) a new car, I (buy) one.
3. (Second) If José (not/speak) good French, he (not/move) to Paris.
4. (First) If John (drink) too much coffee, he (get) ill.
5. (Third) If we (tidy) our flat, we (not/lose) our keys.
6. (Third) If Luke (not/send) flowers to his mother, she (not/be) happy.
7. (Second) If the children (be) in bed, I (be able to) have a bath.
8. (Second) If you (not/be) so stubborn, we (not/have) so many arguments.

**X. Write down 5 sentences about modern IT technologies that can be used in teaching process.**



**ОБРАЗЦЫ ТЕСТОВ ДЛЯ ИТОГОВОГО КОНТРОЛЯ****EXAMINATION TEST**

## Variant I

**Part I****I. Skim the text.****The evolution of the microprocessor. Working of a Processor.**

The evolution of the microprocessor has been one of the greatest achievements of our civilization. In some cases, the terms 'CPU' and 'microprocessor' are used interchangeably to denote the same device. Like every genuine engineering marvel, the microprocessor too has evolved through a series of improvements throughout the 20th century.

It is the central processing unit, which coordinates all the functions of a computer. It generates timing signals, sends and receives data to and from every peripheral used inside or outside the computer. The commands required to do this are fed into the device in the form of current variations, which are converted into meaningful instructions by the use of a Boolean Logic System.

It divides its functions in two categories, logical and processing. The arithmetic and logical unit and the control unit handle these functions respectively. The information is communicated through a bunch of wires called buses. The address bus carries the 'address' of the location with which communication is desired, while the data bus carries the data that is being exchanged.

The invention of the transistor in 1947 was a significant development in the world of technology. It could perform the function of a large component used in a computer in the early years. Soon, it was found that the function of this large component was easily performed by a group of transistors arranged on a single platform. This platform, known as the integrated chip (IC), turned out to be a very crucial achievement and brought along a revolution in the use of computers. A person named Jack Kilby of Texas Instruments was honored with the Nobel Prize for the invention of IC, which laid the foundation on which microprocessors were developed. At the same time, Robert Noyce of Fairchild made a parallel development in IC technology for which he was awarded the patent.

**marvel** - чудо, удивительный феномен

**II. Decide whether the following statements are true or false according to the text.**

1. The development of the microprocessor has been one of the greatest advances of our civilization.
2. The terms 'CPU' and 'microprocessor' may mark identical devices.
3. It is the central processing unit, which coppers all the operations of a computer.
4. The data is sent and received to and from every computer peripheral by 'CPU'.
5. The information is communicated through a number of conductors called busses.
6. The discovery of a semiconductor device in the middle of the 20<sup>th</sup> century was a serious engineering for machinery and equipment.
7. It was stated in 1950s that the transistor was able to act as a luxurious computer constituent.

8. The integrated chip brought along a rotation in the application of computers.
9. Jack Kilby played an important role in the development of microprocessors.
10. Jack Kilby and Robert Noyce made simultaneous elaborations in IC technology.

**III. Choose the best alternative according to the text to complete these sentences.**

1. The microprocessor has evolved through a series of improvements throughout the 20th century ...
  - a) *as engineers like miracles.*
  - b) *because it was connected with genuine engineering miracles.*
  - c) *similar to every genuine engineering miracle.*
2. The commands required ... are fed into the device in the form of current variations.
  - a) *to coordinate the functions of a computer*
  - b) *to generate timing signals, send and receive data to and from every peripheral*
  - c) *to convert current variations into meaningful instructions.*
3. The microprocessor divides its functions ...
  - a) *into both logical and processing categories.*
  - b) *into different categories, not only into logical and processing.*
  - c) *into arithmetic and logical.*
4. The information is communicated ...
  - a) *throughout a bunch of wires called buses.*
  - b) *by means of a bunch of wires called buses.*
  - c) *only through the address buses.*
5. In 1947 the transistor could perform the function ...
  - a) *of the component used in large computers in the early days.*
  - b) *of a large component only in a group of transistors.*
  - c) *of a large computer component used in the early days.*

**IV. Choose the contextual meaning.**

1. **interchangeably** - a) на равных основаниях; b) непостоянно; c) в случае изменений.
2. **timing signals** – a) временные средства связи; b) сигналы тимины; c) сигналы синхронизации.
3. **Current variations** – a) изменения потока; b) вариации течения; c) изменения текущих записей.
4. **To handle** – a) поддерживать; b) обрабатывать; c) перемещать.
5. **Data bus** – a) шина передачи данных; b) информационный автобус; c) перевозка данных.

**Part 2.**

**V. Which sentence means exactly the same?**

1. **It is the central processing unit, which coordinates all the functions of a computer.**
  - a) Это центральный процессор, который координирует все функции компьютера.
  - b) Именно центральный процессор координирует все функции компьютера
  - c) Это центральный производственный элемент согласовывает все функции компьютера.

**2. It was found that the function of this large component was easily performed by a group of transistors arranged on a single platform.**

a) Было обнаружено, что функция этой большой детали, легко выполняемая группой транзисторов, приводилась в порядок на одной платформе.

b) Было установлено, что функция этого большого элемента несомненно выполнялось группой транзисторов, размещенных на единой платформе.

c) Считалось, что действие этой большой детали без труда выполнялось группой транзисторов, смонтированных на единственной площадке.

**3. This platform, known as the integrated chip, turned out to be a very crucial achievement and brought along a revolution in the use of computers.**

a) Эта компьютерное основание, известное как комплексный чип, оказалось очень важным достижением и принесло революцию в использовании компьютеров.

b) Эта платформа, известная как интегральный чип, привела к очень критическому достижению и принесла оборот в использовании компьютеров.

c) Эта платформа, известная как интегральная микросхема, оказалась очень важным достижением и способствовала перевороту в использовании компьютеров.

**VI. Choose the correct variant.**

**Different Types of Microcomputers**

The term "microcomputer" actually refers to any personal computer 1) \_\_\_\_ for use by one person. Notebooks, among 2) \_\_\_\_ microcomputers, can weigh less 3) \_\_\_\_ a kilogram. These ultra-portable units allow for easy setup in a classroom; they connect 4) \_\_\_\_ the Internet via a cable or integrated Wi-Fi terminal. Most notebooks, these days have built-in microphones and webcams for video conferences. Laptops are slightly bigger and heavier than the notebooks. 5) \_\_\_\_ laptops and notebooks have similar performance, the laptops have larger screens and are more convenient for longer work. The advantage 6) \_\_\_\_ the laptop comparing to other microcomputers is its portability and easy access to the Internet. Many companies have problems with their laptop batteries. Some are not durable and 7) \_\_\_\_ overheat and sometimes even explode.

1. a) designed; b) is designed; c) design.

2. a) smaller; b) the smallest; c) the small.

3. a) then; b) such; c) than.

4. a) with; b) to; c) - .

5. a) also; b) although; c) but .

6. a) in; b) about; c) of.

7. a) can; b) should; c) may.

**Part 3.**

**VII. Fill in the blanks using the words from the list below.**

- a) applications; b) computer; c) difference; d) portable; e) room; f) sizes;  
g) system; h) unit

Laptops are of course built to be as 1) \_\_\_\_ as possible, so their screen sizes typically stop where desktop monitors begin. Monitors can be picked up at 2) \_\_\_\_ typically of 17 inches and above. Don't forget all-in-one PCs too, where the entire 3)

\_\_\_\_, sound 4) \_\_\_\_ and monitor is rolled together in one 5) \_\_\_\_ . If you need 6) \_\_\_\_ for comparing 7) \_\_\_\_ and windows side by side, then a desktop monitor makes a real 8) \_\_\_\_ .

**Part 4.**

**VIII. Read the text and choose the sentence which best expresses the main idea of the text.**

There are various terms that are associated with the types of computers and sometimes can create confusion. A desktop and a laptop are usually compared by the buyers. A laptop is a smaller version of a desktop that contains the hard drive, disk drive, monitor, wireless modem, keyboard and mouse in a single unit. The best advantage of using a laptop is that it is portable. They are also different from the desktop as they do not need a desk to use them.

However, the functionality of a laptop is quite similar to that of a desktop. One of the disadvantages of a laptop over a desktop is that – due to the laptop's small size and portability, it is vulnerable to theft.

Laptops are known for their portability and compact size. Laptops are usually preferred by the people who want to take it along while traveling. It provides the same functionalities as the desktop computers; therefore laptops are preferred by regular travelers. People often carry their laptops to the office, as this provides them with the flexibility to work at home, as well as office, on the same files without transferring the data or installing the set up.

A heated debate over the preference may often occur. However, if someone is looking for a portable machine to work with, then definitely laptops are to be considered. On the other hand, if one needs to spend a lot of time working on the computer system, then a stationary device like a desktop needs to be preferred. If someone is thinking to buy one out of these, then he/she should first determine the need and budget, and then accordingly buy a computer.

- A. The author states that a stationary device like a desktop needs to be preferred.
- B. The text is devoted to the comparison of desktops and laptops in their hardware components, their portability and operational abilities.
- C. The author describes the significant advantages of laptops over the desktops.

Informatics and Education Department

**EXAMINATION TEST**

Variant II

**Part I**

**I. Skim the text.**

**Classification of Computers by Processing Signals**

The core function of computers is to process raw data into information, a task which is done by the microprocessor. This data is moved around as signals via complex physical quantities like pulses, electric frequency and light, from one medium to another. While the concept of data signal can be as simple as an on and off direct current, it is also as complex as alternating or electromagnetic current. Computer data is placed on current, waves, light or other pulses by a process called modulation, and the signals can be any one of the following three: analog, digital, hybrid.

Computers use analog and digital signals in order to process raw data into useful information. Whereas the former are fast at processing results, the latter give the most accurate information. Somewhere in between is hybrid processing, which is meant to combine the advantages of the above-mentioned technologies.

The early systems and contraptions made at the beginning of the 20th century were analog, those manufactured at the close of the 20th century through to the 21st century have largely been digital. Analog signals have since been superseded by digital innovations. The transition was made possible because of the need to accomplish tasks faster and more efficiently with less clutter.

The communication industry is one area where technology had to evolve fast. While analog telephony was simple to use in the past, it was hampered because of price and limited scalability. Digital telephony, however, has provided cheaper call rates, better call transmission quality, and improved scalability.

**clutter** - помехи [на экране];

**contraption** - новое хитроумное изобретение, хитрая штука

**scalability** - масштабируемость, расширяемость.

**to hamper** - препятствовать, мешать (чему-л.).

## II. Decide whether the following statements are true or false according to the text.

1. The basic function of computers is to influence information.
2. The concept of data signal is not only as simple as an on and off direct current, but it is also as complex as alternating or electromagnetic current.
3. Modulation is the process which places computer data on current, waves, light or other pulses.
4. Computers use both analog and digital signals in order to make raw data useful.
5. Whereas the digital signals are fast at processing results, the analog give the most accurate information.
6. Hybrid processing integrates the advantages of analog and digital signals.
7. Crafty devices made at the beginning of the 20th century were digital.
8. Digital signals displaced analog ones.
9. Digital signals contributed to fast task accomplishment but disregarded clutter occurrence.
10. Analog telephony was not only simple to use, but it was encouraged because of price and scalability.

## III. Choose the best alternative according to the text to complete these sentences.

1. Hybrid computers have tremendous computing speed enabled by the all-parallel configuration ... .
  - a) relieved by the all-parallel configuration provided by the analog subsystem.
  - b) provided by the analog subsystem
  - c) as a result of the all-parallel configuration provided by the analog subsystem.
2. Computer data is placed on current, waves, light or other pulses ... .
  - a) with modulation process.
  - b) by a process called modulation.
  - c) calling for the modulation process.
3. Hybrid processing is meant to combine ... .
  - a) both the analog and digital technologies

- b) *the disadvantages of the analog and digital technologies*  
 c) *the advantages of the analog and digital technologies.*

4. Analog signals ... .

- a) *displaced digital innovations.*  
 b) *have been superseded by digital innovations.*  
 c) *took the place of digital innovations.*

5. ... has provided cheaper call rates, better call transmission quality, and improved scalability.

- a) *Digital signal*  
 b) *Analog telephony*  
 c) *Digital telephony*

#### IV. Choose the contextual meaning.

1. core – a) внутренний; b) водонепроницаемый; c) основной.  
 2. raw – a) необработанный; b) сырой; c) грубый.  
 3. physical quantity – a) физический параметр; b) физическая величина; c) материальное количество .  
 4. direct current – a) открытый ток; b) прямое течение; c) постоянный ток.  
 5. transition – a) переход; b) перемещение; c) транзиция.

#### Part 2. Grammar Recognition

##### V. Which sentence means exactly the same?

**1. The communication industry is one area where technology had to evolve fast.**

- a) Коммуникационная индустрия - это одна из областей, где технологии должны быстро развиваться.  
 b) Промышленность средств связи является одной из областей, где технология должна была быстро развиваться.  
 c) Промышленность средств связи – это одна из зон, где технологии должны были быстро эволюционировать.

**2. Computers use analog and digital signals in order to process raw data into useful information.**

- a) Компьютеры используют аналоговые и цифровые сигналы для обработки необработанных данных в полезную информацию.  
 b) Компьютеры используют аналоговые и цифровые сигналы, чтобы по порядку подвергать обработке сначала сырые данные, потом полезную информацию  
 c) Компьютеры используют аналоговые и цифровые сигналы для переработки исходных данных в полезную информацию.

**3. Computer signals can be any one of the following three: analog, digital, hybrid.**

- a) Компьютерные сигналы могут быть любыми из следующих трех: аналоговые, цифровые, гибридные.  
 b) Компьютеры сигнализируют который из трех сигнал может быть: аналоговый, цифровой или гибридный.

с) Компьютерные сигналы могут быть получены из следующих трех: аналоговых, цифровых, гибридных.

## VI. Choose the correct variant.

### Analog Computers

Analog computers are used 1) \_\_\_ analog data. Such type of data 2) \_\_\_ temperature, pressure, voltage, depth etc. These quantities are continuous and have an infinite variety of values. These computers are ideal in situations where data 3) \_\_\_ directly from measuring instrument without having to convert it into numbers or codes. Analog computers 4) \_\_\_ the basis for the development of the modern digital computers. They are 5) \_\_\_ used for certain specialized engineering and scientific applications, for calculation and 6) \_\_\_ of analog quantities. They are frequently used to control process such as those 7) \_\_\_ in oil refinery where flow and temperature measurements are important. They are used for example in paper making and in chemical industry.

1. a) to process; b) processing; c) process.
2. a) including; b) included; c) includes.
3. a) can accept; b) can be accepted; c) can accepting.
4. a) provides; b) providing; c) provided.
5. a) widely; b) wide; c) wider.
6. a) measurement; b) to measure; c) measured.
7. a) find; b) founded; c) found.

### Part 3.

## VII. Fill in the blanks using the words from the list below.

- a) applications; b) chips; c) device; d) functionality; e) functions; f) mainframes; g) microprocessor; h) project.

The work on this 1) \_\_\_ began with an order from a Japanese calculator company Busicom to Intel, for building some 2) \_\_\_ for it. Hoff felt that the design could integrate a number of 3) \_\_\_ on a single chip making it feasible for providing the required 4) \_\_\_. This led to the design of Intel 4004, the world's first 5) \_\_\_. The next in line was the 8-bit 8008 microprocessor. This was the beginning of a new era in computer 6) \_\_\_. The use of 7) \_\_\_ and huge computers was scaled down to a much smaller 8) \_\_\_ that was affordable to many.

### Part 4.

## VIII. Read the text and choose the sentence which best expresses the main idea of the text.

Hybrid computers have tremendous computing speed enabled by the all-parallel configuration provided by the analog subsystem. This is particularly useful when numerical solutions for differential equations are required, such as in the case of flight simulation. Analog systems have been used for these purposes and are faster than digital computers; they provide the solutions in a shorter time. However, the precision and accuracy of these results are questionable. A hybrid computer on the other hand, provides quick, precise results and is particularly useful when big equations need to be managed in real time and the results are required almost immediately. The results provided by hybrid computers are precise, accurate, more detailed and much more

useful when compared to their earlier counterparts. This is enabled by the digital component of the hybrid computer. With the hybrid computer, "seed" values are generated quickly, but are mathematically precise as this is achieved from the analog computer front-end. These results are then fed into the digital computer which uses an iterative process and gets the precise and accurate numerical seed. The total computation time taken to achieve this precise seed value is less than a simple analog or digital computer alone. The combination of speed and precision is extremely important for real time applications like weather system computation or high frequency phased-array radar.

**A.** The author studies speed, functional characteristics and other advantages of Hybrid computers in comparison to analog and digital systems.

**B.** The text is devoted to the great importance of speed for the application of real time devices.

**C.** The author describes the significant advantages of hybrid computers over the analog systems.



# **ПРЕДМЕТНО-ТЕМАТИЧЕСКОЕ СОДЕРЖАНИЕ ЗАЧЁТА И ЭКЗАМЕНА**

## Темы к зачёту

1. Information Systems and Technologies in Teaching Process
2. Types of Computers.
3. Types of Computer Software.
4. Microsoft Operating Systems.
5. Microsoft Window's Structural Elements
6. Microsoft Office Applications.

## Темы к экзамену

1. Information Systems and Technologies
2. Information Systems and Technologies in Teaching Process
3. History of Computers (The First Calculating Devices; The First Computers)
4. Computer Hardware.
5. Types of Computers.
6. Types of Computer Software.
7. Microsoft Operating Systems.
8. Microsoft Window's Structural Elements.
9. Microsoft Office Applications.
10. History of the Internet.

**ВСПОМОГАТЕЛЬНЫЙ РАЗДЕЛ**  
**УЧЕБНАЯ ПРОГРАММА БНТУ ПО УЧЕБНОЙ ДИСЦИПЛИНЕ**  
**«ИНОСТРАННЫЙ ЯЗЫК (АНГЛИЙСКИЙ)»**

В ЭУМК представлены выдержки из учебной программы по учебной дисциплине «Иностранный язык (английский)» для специальности 1-08 01 01 Профессиональное обучение (по направлениям), касающиеся направления специальности 1-08 01 01-07 «Профессиональное обучение (информатика)».

**УТВЕРЖДАЮ**

Проректор по учебной работе  
Белорусского национального  
технического университета

\_\_\_\_\_ А.Г. Баханович

\_\_\_\_\_ 22.06.2017

Регистрационный № УД-ФЭС 102-11/уч.

## **ИНОСТРАННЫЙ ЯЗЫК (английский)**

**Учебная программа учреждения высшего образования  
по учебной дисциплине для специальностей**

**1-08 01 01 Профессиональное обучение (по направлениям):**

**направление специальности 1-08 01 01-01 «Профессиональное обучение  
(машиностроение)»;**

**направление специальности 1-08 01 01-04 «Профессиональное обучение  
(деревообработка)»;**

**направление специальности 1-08 01 01-05 «Профессиональное обучение  
(строительство)»;**

**направление специальности 1-08 01 01-07 «Профессиональное обучение  
(информатика)»;**

**направление специальности 1-08 01 01-09 «Профессиональное обучение  
(автомобильный транспорт)»;**

**для специальности 1-36 20 04 «Вакуумная и компрессорная техника»**

Учебная программа составлена на основе типовой учебной программы «Иностранный язык», утв. 15.04.2008, рег. № ТД-СГ.013/тип.

**СОСТАВИТЕЛИ:**

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Т.П. Фомичёва, старший преподаватель кафедры английского языка №2 Белорусского национального технического университета.

**РЕКОМЕНДОВАНА К УТВЕРЖДЕНИЮ:**

Кафедрой английского языка №2 Белорусского национального технического университета

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Заведующий кафедрой \_\_\_\_\_

Н.П. Мартысюк

Методической комиссией инженерно-педагогического факультета Белорусского национального технического университета

(протокол №8 от 07 июня 2017 г.)

Председатель методической комиссии \_\_\_\_\_

С.С. Данильчик

Научно-методическим советом Белорусского национального технического университета (протокол №5 секции №1 от 29 мая 2017 г.)

## ПОЯСНИТЕЛЬНАЯ ЗАПИСКА

Учебная программа по учебной дисциплине «Иностранный язык (английский)» разработана для специальностей **1-08 01 01 Профессиональное обучение (по направлениям)**: направление специальности 1-08 01 01-01 «Профессиональное обучение (машиностроение)»; **направление специальности** 1-08 01 01-04 «Профессиональное обучение (деревообработка)»; направление специальности 1-08 01 01-05 «Профессиональное обучение (строительство)»; направление специальности **1-08 01 01-07 «Профессиональное обучение (информатика)»**; направление специальности 1-08 01 01-09 «Профессиональное обучение (автомобильный транспорт)»; для специальности 1-36 20 04 «Вакуумная и компрессорная техника».

**Целью** изучения учебной дисциплины является формирование иноязычной коммуникативной компетенции будущего специалиста, позволяющей использовать иностранный язык как средство профессионального и межличностного общения.

В процессе достижения главной цели решаются следующие **задачи**:

- *познавательные*, позволяющие сформировать представление об образе мира как целостной многоуровневой системе (этнической, языковой, социокультурной и т.п.); об уровне материальной и духовной культуры; системе ценностей (религиозно-философских, эстетических и нравственных); особенностях профессиональной деятельности в изучаемых странах;

- *развивающие*, позволяющие совершенствовать речемыслительные и коммуникативные способности, память, внимание, воображение, формирование потребности к самостоятельной познавательной деятельности и т. д.;

- *воспитательные*, связанные с формированием общечеловеческих, общенациональных и личностных ценностей, таких как: гуманистическое мировоззрение, уважение к другим культурам, патриотизм, нравственность, культура общения;

- *практические*, предполагающие овладение иноязычным общением в единстве всех его компетенций (языковой, речевой, социокультурной, компенсаторной, учебно-познавательной), функций (этикетной, познавательной, регулятивной, ценностно-ориентационной) и форм (устной и письменной), что осуществляется посредством взаимосвязанного обучения всем видам речевой деятельности в рамках определенного программой предметно-тематического содержания, а также овладения технологиями языкового самообразования.

Учебная дисциплина базируется на знаниях курса средней общеобразовательной школы и связана с «Обзорными лекциями по специальности». Знания и умения, полученные студентами при изучении данной дисциплины, позволяют осуществлять коммуникацию на английском языке в различных ситуациях профессиональных и деловых

взаимоотношений, а также выполнять реферирование, аннотирование и перевод профессионально значимых англоязычных текстов и научных работ.

В результате изучения учебной дисциплины «Иностранный язык (английский)» студент должен

**знать:**

- систему иностранного языка в его фонетическом, лексическом и грамматическом аспектах;
- социокультурные нормы бытового и делового общения в современном поликультурном мире;
- историю и культуру страны изучаемого языка;
- основные формы культурной коммуникации;

**уметь:**

- вести общение профессионального и социокультурного характера на иностранном языке, сочетая диалогические и монологические формы речи;
- читать литературу на иностранном языке по профилю обучения (изучающее, ознакомительное, просмотровое и поисковое чтение);
- использовать иностранный язык в качестве инструмента профессиональной деятельности: перевод, реферирование и аннотирование профессионально ориентированных и научных текстов, выступление с публичной речью, составление деловой документации;
- использовать стилистические нормы иностранного языка в соответствии с ситуацией профессиональных или деловых взаимоотношений;

**владеть:**

- системой иностранного языка в его фонетическом, лексическом и грамматическом аспектах;
- правилами речевого этикета;
- рациональным и эффективным поведением в ситуациях межкультурной коммуникации.

Освоение данной учебной дисциплины для специальностей 1-08 01 01 Профессиональное обучение (по направлениям): направление специальности 1-08 01 01-01 «Профессиональное обучение (*машиностроение*)»; направление специальности 1-08 01 01-04 «Профессиональное обучение (*деревообработка*)»; направление специальности 1-08 01 01-05 «Профессиональное обучение (*строительство*)»; направление специальности 1-08 01 01-07 «Профессиональное обучение (*информатика*)»; направление специальности 1-08 01 01-09 «Профессиональное обучение (*автомобильный транспорт*)» обеспечивает формирование следующих компетенций:

АК-1. Уметь применять базовые научно-теоретические знания для решения теоретических и практических задач.

АК-2. Владеть системным и сравнительным анализом.

АК-3. Владеть исследовательскими навыками.

АК-4. Уметь работать самостоятельно.

АК-5. Быть способным порождать новые идеи (обладать креативностью).

АК-6. Владеть междисциплинарным подходом при решении проблем.

АК-7. Иметь навыки, связанные с использованием технических устройств, управлением информацией и работой с компьютером.

АК-8. Обладать навыками устной и письменной коммуникации.

АК-9. Уметь учиться, повышать свою квалификацию в течение всей жизни.

СЛК-1. Обладать качествами гражданственности.

СЛК-2. Быть способным к социальному взаимодействию.

СЛК-3. Обладать способностью к межличностным коммуникациям.

СЛК-5. Быть способным к критике и самокритике.

СЛК-6. Уметь работать в команде.

Освоение данной учебной дисциплины для специальности 1-36 20 04 «Вакуумная и компрессорная техника» обеспечивает формирование следующих компетенций:

АК-1. Уметь применять базовые научно-теоретические знания для решения теоретических и практических задач.

АК-8. Обладать навыками устной и письменной коммуникации.

СЛК-3. Обладать способностью к межличностным коммуникациям.

СЛК-6. Уметь работать в команде.

ПК-30. Владеть методологией подготовки научных статей, сообщений, рефератов и презентаций.

ПК-35. Вести переговоры с другими заинтересованными участниками.

ПК-36. Готовить доклады, материалы к презентациям.

ПК-37. Пользоваться информационными ресурсами.

<...>

Согласно учебному плану для направления специальности 1-08 01 01-07 «Профессиональное обучение (информатика)» на изучение учебной дисциплины отведено для очной формы получения высшего образования всего 294 часа, из них аудиторных – 140 часов.

Распределение аудиторных часов по курсам, семестрам и видам занятий приведено в Таблице 3.

Таблица 3

Очная форма получения высшего образования			
Курс	Семестр	Практические занятия, ч.	Форма текущей аттестации
1	1	72	зачет
1	2	68	экзамен

<...>

## СОДЕРЖАНИЕ УЧЕБНОГО МАТЕРИАЛА

### РАЗДЕЛ I. МОДУЛЬ СОЦИАЛЬНОГО ОБЩЕНИЯ

#### **Тема 1.1. Социально-бытовое общение**

Личностные характеристики (биографические сведения, работа, хобби т.д.).

#### **Тема 1.2. Роль иностранного языка в профессиональном общении**

Роль иностранного языка в профессиональной деятельности инженера. Роль международного сотрудничества в профессиональной деятельности.

#### **Тема 1.3. Современные технологии и окружающая среда**

Экологическая культура. Технический прогресс и глобальные проблемы человечества. Пути решения проблем защиты окружающей среды с точки зрения инженера. Экологические проблемы Беларуси, Великобритании и США в сопоставлении.

### Раздел II. МОДУЛЬ ПРОФЕССИОНАЛЬНОГО ОБЩЕНИЯ

#### **Тема 2.1. Учебно-профессиональное общение**

Вклад белорусов в мировую науку и технику. Организация инженерного образования в Республике Беларусь и странах изучаемого языка: США и Великобритании. Обучение в университете. БНТУ.

#### **Тема 2.2. Профессиональное общение**

Предмет и содержание специальности. Общее представление о структуре и характере профессиональной деятельности. Избранная специальность как отрасль инженерии.

#### **Тема 2.3. Обмен научно-технической информацией**

Обмен-научно-технической информацией (на выставке, конференции). Электронная и постерная презентации.

#### **Тема 2.4. Аннотирование статьи по специальности**

Составные части аннотации на иностранном языке. Клишированные фразы для написания аннотации.

#### **Тема 2.5. Реферирование статьи по специальности**

Основные части реферата на иностранном языке. Клишированные фразы для написания реферата.

#### **Тема 2.6. Производственное общение**



Типичные ситуации производственного общения. Социокультурные нормы делового общения. Профессиональная этика.

## **Раздел III. ЯЗЫКОВОЙ МАТЕРИАЛ**

### **Тема 3.1. Фонетика**

Звуковой строй иноязычной речи в сопоставлении с фонетической системой родного языка: особенности произнесения отдельных звуков (гласных, согласных), звукосочетаний, слов и фраз; расхождение между произношением и написанием; фонетическая транскрипция. Интонационное оформление фраз различного коммуникативного типа: повествования, вопроса, просьбы, приказа, восклицания. Фразовое и логическое ударение в сложном предложении.

### **Тема 3.2. Имя существительное**

Категории числа, падежа, определённости.

### **Тема 3.3. Имя прилагательное**

Категория степеней сравнения. Сравнительные конструкции.

### **Тема 3.4. Местоимение**

Типы местоимений (личные, притяжательные, указательные, вопросительные, неопределённые, возвратные).

### **Тема 3.5. Числительное**

Типы числительных (простые, производные, сложные; количественные порядковые; дробные).

### **Тема 3.6. Наречие**

Типы наречий. Категория степеней сравнения.

### **Тема 3.7. Глагол**

Видо-временная система (действительный, страдательный залог). Модальные глаголы и их эквиваленты. Согласование времён.

### **Тема 3.8. Неличные формы глагола**

Инфинитив. Причастие. Герундий. Конструкции с неличными формами глагола.

### **Тема 3.9. Словообразование**

Словообразовательные модели (существительное, прилагательное, наречие, глагол).

**Тема 3.10. Служебные слова**

Предлоги. Союзы. Союзные слова.

**Тема 3.11. Простое предложение**

Типы простых предложений; порядок слов. Члены предложения: способы выражения, правила согласования подлежащего и сказуемого. Специфические конструкции и обороты.

**Тема 3.12. Сложное предложение**

Типы сложного предложения (сложносочинённое и сложноподчинённое). Типы придаточных предложений. Условные предложения. Бессоюзное подчинение.

**Тема 3.13. Прямая и косвенная речь**

Правила перевода в косвенную речь предложений разных типов.

**Тема 3.14. Профессиональная лексика**

Наиболее употребительные слова и словосочетания по предметно-тематическому содержанию курса. Сочетаемость слов; свободные и устойчивые словосочетания. Общенаучная лексика и терминология.

**Тема 3.15. Разговорные клише**

Знакомство. Установление, поддержание контакта. Выражение просьбы. Выражение согласия, несогласия с мнением автора (собеседника). Начало, продолжение, завершение беседы. Выражение собственного мнения. Запрос о мнении собеседника. Уверенность, неуверенность.

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**УЧЕБНО-МЕТОДИЧЕСКАЯ КАРТА УЧЕБНОЙ ДИСЦИПЛИНЫ**  
**очная форма** получения высшего образования для направлений  
**специальности**

**1-08 01 01-07 «Профессиональное обучение (информатика)», <...>**

Номер раздела, темы	Название раздела, темы	Количество аудиторных часов	Форма контроля знаний
		Практические занятия	
1.	2	3	4
	<b>1 семестр</b>		
<b>1.</b>	<b>Модуль социального общения</b>		
1.1.	Социально-бытовое общение	4	
1.2.	Роль иностранного языка в профессиональном общении	4	
1.3.	Современные технологии и окружающая среда	6	
<b>2.</b>	<b>Модуль профессионального общения</b>		
2.1.	Учебно-профессиональное общение	4	
2.2.	Профессиональное общение	4	
2.6.	Производственное общение	4	
<b>3.</b>	<b>Языковой материал</b>		
3.1.	Фонетика	4	
3.2.	Имя существительное	4	
3.3.	Имя прилагательное	4	
3.4.	Местоимение	4	
3.5.	Числительное	4	
3.6.	Наречие	4	
3.10.	Служебные слова	4	
3.11.	Простое предложение	4	
3.12.	Сложное предложение	6	
3.14.	Профессиональная лексика	4	
3.15.	Разговорные клише	4	
	<b>Итого за семестр</b>	<b>72</b>	<b>Зачет</b>
	<b>2 семестр</b>		

<b>2.</b>	<b>Модуль профессионального общения</b>		
2.3.	Обмен научно-технической информацией	6	
2.4.	Аннотирование статьи по специальности	8	
2.5.	Реферирование статьи по специальности	8	
2.6.	Производственное общение	6	
<b>3.</b>	<b>Языковой материал</b>		
3.7.	Глагол	8	
3.8.	Неличные формы глагола	8	
3.9.	Словообразование	6	
3.12.	Сложное предложение	8	
3.13.	Прямая и косвенная речь	4	
3.14.	Профессиональная лексика	6	
	<b>Итого за семестр</b>	<b>68</b>	<b>Экзамен</b>
	<b>Всего аудиторных часов</b>	<b>140</b>	

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## СРЕДСТВА ДИАГНОСТИКИ РЕЗУЛЬТАТОВ УЧЕБНОЙ ДЕЯТЕЛЬНОСТИ (МОДУЛЬ КОНТРОЛЯ)

Для оценки достижений студента рекомендуется использовать следующий диагностический инструментарий:

- устный и письменный опрос во время практических занятий;
- проведение текущих контрольных работ (заданий) по отдельным темам;
- защита выполненных в рамках управляемой самостоятельной работы индивидуальных заданий;
- зачёт;
- экзамен.

## ТРЕБОВАНИЯ К РАЗЛИЧНЫМ ЭТАПАМ ДИАГНОСТИКИ КОМПЕТЕНЦИЙ СТУДЕНТОВ

Проверка знаний и умений осуществляется в форме текущего, промежуточного и итогового контроля. *Текущий контроль* предусмотрен программой и осуществляется на аудиторных занятиях с целью проверки уровня владения пройденной частью языкового и речевого материала и степени сформированности коммуникативных навыков и умений. Текущий контроль осуществляется в форме комплексных заданий, лексикограмматических тестов, коллоквиумов, собеседований.

*Промежуточный контроль* проводится в конце прохождения каждой темы в виде лексико-грамматических тестов и самостоятельной работы по текстам по специальности.

*Итоговый контроль* носит комплексный характер и проводится в двух формах: зачета и экзамена.

Оценка учебных достижений студентов на экзаменах по дисциплине «Иностранный язык (английский)» производится по десятибалльной шкале. Для оценки учебных достижений студентов используются критерии, утвержденные Министерством образования Республики Беларусь.

**ЗАЧЁТ** по дисциплине «Иностранный язык (английский)» основывается на результатах текущего и промежуточного контроля и направлен, с одной стороны, на проверку умения работы с текстом, а с другой стороны, – на проверку коммуникативных навыков и умений, приобретенных студентами на соответствующем этапе обучения. Требования к зачету:

### **Письменная часть**

1. Лексико-грамматический тест.
2. Чтение и письменный перевод оригинального общенаучного или общетехнического текста с иностранного языка на родной со словарем. Объем – 1000 печатных знаков. Время выполнения – 45 мин.

**Устная часть**

1. Подготовленное высказывание по заданной ситуации (10-12 предложений) и неподготовленная беседа с преподавателем в рамках данной ситуации (6-7 реплик).
2. Реферирование оригинального или частично адаптированного культурологического или научно-популярного текста на иностранном языке; беседа на иностранном языке по содержанию текста. Объём текста – 700 печатных знаков. Время выполнения – 10 мин.

**ЭКЗАМЕН** включает следующие задания:

**Письменная часть**

1. Лексико-грамматический тест.
2. Чтение и письменный перевод оригинального профессионально ориентированного текста с иностранного языка на родной со словарем. Объём – 1300-1500 печатных знаков. Время – 45 мин.

**Устная часть**

1. Подготовленное высказывание по заданной ситуации и неподготовленная беседа с преподавателем в рамках данной ситуации (по предметно-тематическому содержанию дисциплины).
2. Реферирование аутентичного или частично адаптированного общественно-политического, культурологического, научно-популярного текста; беседа на иностранном языке по содержанию текста. Объём текста – 900 печатных знаков. Время – 5-7 мин.

**МЕТОДИЧЕСКИЕ РЕКОМЕНДАЦИИ ПО ОРГАНИЗАЦИИ И ВЫПОЛНЕНИЮ САМОСТОЯТЕЛЬНОЙ РАБОТЫ СТУДЕНТОВ**

При изучении дисциплины рекомендуется использовать следующие формы самостоятельной работы:

- подготовка сообщений, тематических докладов, презентаций по заданным темам;
- проработка тем (вопросов), вынесенных на самостоятельное изучение.

**МЕТОДЫ (ТЕХНОЛОГИИ) ОБУЧЕНИЯ**

Основными методами (технологиями) обучения, отвечающими целям изучения дисциплины, являются:

- *проектная технология*, представляющая самостоятельную, долгосрочную групповую работу по теме-проблеме, выбранную самими студентами, включающую поиск, отбор и организацию информации. В процессе работы над проектом речевое иноязычное общение «вплетено в интеллектуально-эмоциональный контекст другой деятельности»;
- *кейс-технология*, основу которой составляют осмысление, критический анализ и решение конкретных социальных проблем. Кейс-

технология ориентирована на развитие способности студентов решать определенные жизненные ситуации, важные повседневные проблемы, с которыми они непосредственно сталкиваются в жизни;

– *симуляция*, которая применительно к иностранному языку представляет собой подражательное, разыгранное воспроизведение межличностных контактов, организованных вокруг проблемной ситуации, максимально приближенной к реальной;

– *технология обучения в сотрудничестве*, предполагающая создание условий для активной совместной учебной деятельности студентов в разных учебных ситуациях. Это обучение в процессе общения студентов друг с другом и с преподавателем при наличии общей цели и индивидуальной ответственности каждого члена группы за собственный вклад в общее дело, за выполнение общего задания;

– *технология дебатов*, представляющая собой полемический диалог, проходящий по определенному сценарию и имеющий целью убеждение третьей стороны – судей или аудитории.

– *компьютерные технологии*, предполагающие широкое использование Интернет-ресурсов и мультимедийных обучающих программ. Компьютерные технологии позволяют интенсифицировать и активизировать учебно-познавательную деятельность студентов, эффективно организовать и спланировать самостоятельную работу, совершенствовать контрольно-оценочные функции (компьютерное тестирование).

<...>

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