

**МІНІСТЕРСТВО ОСВІТИ І НАУКИ УКРАЇНИ
НАЦІОНАЛЬНА МЕТАЛУРГІЙНА АКАДЕМІЯ УКРАЇНИ**



С.Ф. ШАРКОВА, Н.Ф. ШАРКОВА

АНГЛІЙСЬКА МОВА

Дніпро НМетАУ 2018

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Складається з семи розділів, які базуються на аналізі текстів та доповнені різноманітними лексичними та граматичними тренувальними вправами, призначеними для активізації навичок читання, говоріння, письма. Для кращого засвоєння розглянутого матеріалу наприкінці розділів надається підсумковий тест, який дає студентам можливість перевірити набуті знання. Останні розділи містять значну кількість творчих завдань, які сприятимуть кращому аналітичному мисленню та вмінню схематично презентувати інформацію.

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Відповідальна за випуск В.В. Пругчикова, канд. філол. наук, доц.

Рецензенти: Л.І. Байсара, канд. філол. наук, доц. (ДНУ)

О.Ю. Нестерова, канд. пед. наук, доцент (НТУ)

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ВСТУП

Навчальний посібник, що пропонується, передбачений для запровадження на практичних заняттях та організації самостійної роботи студентів спеціальності 122 – комп'ютерні науки галузі знань 12 «Інформаційні технології» над учбово-тренувальним матеріалом відповідно до діючого навчального плану з дисципліни «Іноземна мова в ІТ». Навчальний посібник є продовженням комплексу підручників, які спрямовані на усунення недоліків, пов'язаних із недостатньою ефективністю зворотного зв'язку у практиці вузівського викладання іноземної мови.

Запропонований матеріал складається з семи розділів, які базуються на аналізі текстів та доповнені різноманітними лексичними та граматичними тренувальними вправами, призначеними для активізації навичок читання, говоріння, письма. Для кращого засвоєння розглянутого матеріалу наприкінці розділів надається підсумковий тест, який дає студентам можливість перевірити набуті знання. Останні розділи містять значну кількість творчих завдань, які сприятимуть кращому аналітичному мисленню та вмінню схематично презентувати інформацію.

Метою даного посібника є не тільки ознайомлення студентів із деякими специфічними поняттями, засобами вираження та семантикою лексичних одиниць, граматичною структурою речень різної структури, але й активізація роботи на практичних заняттях шляхом створення мотивації щодо вивчення дисципліни.

Текстовий матеріал підібраний з британських та американських оригінальних джерел (*Intellectual Property Portal; Microsoft Policy Roadmap for a Trusted, Responsible, and Inclusive Cloud; The Power of Electricity; the Official Website of the Nobel Prize; Oxford English for Computing; Wikipedia; WIPO Publication*). Навчальний посібник сприятиме індивідуалізації вивчення нерідної мови та підвищенню ефективності контролю за роботою студентів на практичних заняттях.

UNIT 1

Working In the IT Industry

There are well-known software engineers who launched successful IT projects based on innovations and creative ideas patented all over the world. Specialists point out that it is highly important to know intellectual property rights. Intellectual property represents the property of your mind or intellect. In business terms, this also means your proprietary knowledge. Taking into account that global markets are becoming increasingly aggressive, everyone is searching for that competitive edge: the special something that will make you stand out from the rest. Innovation and invention have been remaining the backbone of development in both Western and Eastern countries. People have developed new ideas to better mankind. In fact, most of the major inventions of last century came from individuals not corporations.

Inventors come from all walks of life. Some of them are trained scientists or engineers who work for large companies. But most inventors could be everyday people: truck drivers, plumbers, nurses, etc. They are those people who look at a situation and come up with a solution that they think works better. An intellectual property is any product of the human intellect that is unique, novel, unobvious and has some value in the marketplace. It could be an idea, invention, expression or literary creation, unique name, business method, industrial process, chemical formula, computer program process, presentation and so on.

While many people just let ideas collect dust in the recesses of their mind, others look for an opportunity to tell someone about their inventions. However, creating IP does not mean you own the rights to it! With the exception of copyright and circuit layout rights, which are automatic, you must take formal steps to register your IP and obtain the legal rights of ownership. Otherwise, you will have to rely on common law to prove ownership and prior use for non-registered IP. Building effective strategies around IP (i.e. also the development of steps to protect IP rights) will give the business a major, sustainable market advantage. Note, that registering your IP rights in one country doesn't always give you international protection. In some cases, it is necessary to apply for this separately.

It has been mentioned that IP is as important to commercial success as business, marketing and financial plans. Smart businesses place their IP alongside other assets on the company balance sheet. E.g., IBM which has developed patent licensing to a fine art, earned \$1.7 billion from its patent portfolio in 2001; Lucent

took in \$400 m. BT (British Telecoms) says they already get good rewards for filling valuable patents. But the main reward, Mr Rivette says, is when the inventions put to use. “Researchers don’t do what they do for the money,” he claims. “They have a different DNA from you and me.”

To sum up, in a world in which the wealth of nations and peoples is increasingly defined by their access to knowledge, intellectual property is of prime importance. Understanding the role of IP in different areas often requires significant new research and study. In an effort to promote informed discussion of the innovations, various explanatory publications on current issues of interest are regularly produced. The Intellectual Property Digital Library Web site provides access to intellectual property data collections hosted by the World Intellectual Property Organization. These collections include information about patents, trademarks, industrial designs, state emblems, official hallmarks, emblems of intergovernmental organizations and others.

The fact that we pay attention to IP in our country as well is proved by the Ukrainian Constitution. There are the Laws in this area that support the development of industries and sciences in the modern market context. But there is no doubt that the legal base for protecting IP rights in Ukraine have to be improved and elaborated.

Exercise 1. *Match the English words and word-combinations given below with their Ukrainian equivalents.*

- | | |
|--|--|
| 1. stand out from the rest | a. знаходити рішення |
| 2. the backbone of development | b. підсумовувати/ узагальнювати |
| 3. from all walks of life | c. придбати права власника |
| 4. come up with a solution | d. поряд з іншими активами компанії |
| 5. to have value in the marketplace | e. вирізнятися серед інших |
| 6. to collect dust | f. в умовах сучасного ринку |
| 7. to obtain the rights of ownership | g. представники усіх верств населення |
| 8. alongside other assets of the company | h. припадати пилом |
| 9. to sum up | i. цінуватися на ринку |
| 10. to support the development of industries | j. основа розвитку |
| 11. in the modern market context | k. підтримувати розвиток промисловості |

Exercise 2. *Find the English equivalents for the words and word-combinations given below. Use them in the sentences of your own.*

Власність, конкурентоспроможність, винахід, водопровідник, унікальний, процес виробництва, закутки свідомості, проте, виняток, електросхема, покладатися на щось, доводити, витривалий/ стійкий, перевага, подавати заяву, окремо, успіх, цінні патенти, дослідник, інше ДНК, добробут нації, доступ до знань, значущий, спроба/ зусилля, поточні питання, цифрова бібліотека, очолювати, торгова марка, приділяти увагу, без сумніву, ретельно розробляти.

Exercise 3. *Make the following sentences negative and write questions.*

E.g. Inventors come from all walks of life.

Inventors do not come from all walks of life.

Do inventors come from all walks of life?

1. Intellectual property represents the property of your mind.
2. Global markets are becoming increasingly aggressive.
3. People have developed new ideas to better mankind.
4. Innovation and invention have been remaining the backbone of development in countries.
5. An intellectual property is any product of the human intellect that is unique and unobvious.
6. There is no doubt that they are at home.
7. There are the Laws in this area.

Exercise 4. *Choose the proper answer from the list below.*

1. Are people searching for the competitive edge in the modern market context?
 2. Could most inventors be everyday people?
 3. Do many people let ideas collect dust?
 4. Does the Digital Library include information about patents?
 5. Has British Telecom placed intellectual property alongside other assets on the balance sheet?
- a) Yes, they do b) Yes, it does c) Yes, they could d) Yes, it has
e) Yes, they are

PRESENT TENSES

Grammar Exercise 1. *Choose the correct form of the verb.*

1. *I'm speaking / I speak / I'm speak* three languages: French, Spanish, and English.
2. **A** *Where does Hans come / Hans come / is Hans coming* from?
B He's Swiss. He comes from Zurich.
3. **A** *What you do / do you do / are you doing* tonight?
B I'm going out.
4. **A** *Where's George?*
B He *has / 's having / have* breakfast.
5. **A** *What means this word / does mean this word / does this word mean?*
B I don't know. Look it up in the dictionary.
6. **A** *Do you want a cigarette?*
B No, thanks. I *don't smoke / no smoke / smoke not*.
7. Nurses *look / are looking / looks* after people in hospital.
8. They *understanding / are understanding / understand* the problem now.
9. John *walk / walks / is walking* to school every day.
10. **A** *I'm going to university next year.*
B *What are you going to / you going to / do you study?*

Grammar Exercise 2. *Complete the sentences using one of the following words:*

cause(s) close(s) drink(s) live(s) open(s) speak(s) take(s) place

1. Ann speaks German very well.
2. I never _____ coffee.
3. The swimming pool _____ at 9 o'clock and _____ at 18.30 every day.
4. Bad driving _____ many accidents.
5. My parents _____ in a very small flat.
6. The Olympic Games _____ every four years.

Grammar Exercise 3. *You are writing a letter to a friend. In the letter you give news about yourself and other people. Use the words given to make sentences. Use the present perfect.*

Dear Chris,

Lots of things have happened since I last wrote to you.

- a. I / buy / a new car. I've bought a new car.
- b. My father / start / a new job.
- c. I / give up / smoking.

- d. Charles and Sarah / go / to Brazil.
- e. Susan / have / a baby.
- f. I / visit / my friends / in Italy.
- g. We / read / your article / in “The Times”.
- h. My brother / meet / a popular Japanese writer.

Grammar Exercise 4. *Put the verbs in the correct form: present simple/ present continuous/ present perfect.*

1. We usually grow (grow) vegetables in our garden but this year we aren't growing (not/ grow) any.
2. Lucent _____ (say) they already get good rewards for filling valuable patents.
3. Well, actually I _____ (not/ work) at the moment. I _____ (train) to be a supermarket manager.
4. The police _____ (arrest) two men in connection with the robbery.
5. Ron is in London at the moment. He _____ (stay) at the Park Hotel. He _____ (always/ stay) there when he is in London.
6. I _____ (drink) four cups of coffee today.
7. George says he's 80 years old but nobody _____ (believe) him.
8. Jill is interested in politics but she _____ (not/ belong) to a political party.
9. **A** Is Brussels an interesting place?
B I've no idea. I _____ (never/ be) there.
10. I can't understand why he _____ (be) so selfish. He isn't usually like that.

Grammar Exercise 5. *Choose the correct form of the verb in the following sentences. Remember that with sentences beginning with the existential **there**, the subject is actually after the verb.*

- a. There (is / are) a storm approaching.
- b. There (is / have been) a number of telephone calls today.
- c. There (is / are) too many people at the party now.
- d. There (has / have) been too many interruptions in this class.
- e. (Is / Are) there professors at the conference?
- f. There (are / aren't) new students in our group.
- g. There (is / has been) an increase in the importation of foreign cars.

Grammar Exercise 6. *There are the letters that can be transmuted into the words from the text. Do it as quickly as it is possible.*

YPPERROT AUNTIIDSRL LEVABAUL YLGNRCNIEISA

TMEAKR OOTTRPPINUY TNACIFINGIS RADOBELATE

ITSTNEICS EWTHESORI CATLIONPUBI ENENENIMTATLOVRGR

CELUNID RABRIYL POLEVED DALERAY

Grammar Exercise 7. *Make up your sentences using new words from this unit and present tenses.*

Final Test

I. *Circle the letter of the underlined portion which is not correct. Put down the right variant.*

1. They says this author is going to be very famous.

A B C D

2. I have been learning English from 1999.

A B C D

3. The Department of Foreign Languages are not located in the new building

A B C

opposite the old one.

D

4. Garry seldom pays his bills on time, and his brother does too.

A B C D

5. Peter and Tom plays tennis every afternoon with Mary and me.

A B C D

II. *Write 5 questions to the following sentence.*

There is a lot of rain in the streets of London but that does not stop British people from going shopping.

III. *Substitute the underlined words with the synonyms given below.*

1. Do as you are told!

a) make c) behave

b) follow d) dodge

2. Shake the blanket before you fold it – it's full of dust.

a) iron c) wash

b) jolt d) clean

3. What attracts her to the job is the high salary and the possibility of foreign travel.

a) influences c) tempts

b) shocks d) strikes

4. When Mr. Holmes told them he was a doctor their attitude changed.

- a) decision c) way of thinking
- b) mentality d) preferences

5. She has the feeling he's been avoiding her recently.

- a) looking at c) keeping apart
- b) calling d) addressing

IV. *Read sentences and put them in the right order. The first sentence is in the right position.*

1. Research your idea thoroughly.
2. Develop the infringement strategy.
3. Select key staff involved in developing, maintaining and protecting your IP.
4. Apply for grants if it's possible.
5. To protect yourself, obtain the rights of ownership.
6. Implement your IP strategy with your company's business and marketing plans.
7. Get your staff to sign agreements relating to confidentiality and competition.
8. List registered (and unregistered) IP and place a dollar value on identified assets.
9. Identify all IP associated with your business.

UNIT 2

Computer Systems

In the early 1980s digital technologies gained popularity beyond computer hobbyists and dramatically altered work and social life. Personal computers promised unprecedented control of information and increased efficiency, creating more time for leisure. Digital Pioneers envisioned a future where networked communication would fuel intellectual exchange and greater individual freedom through direct access to information. California became a magnet for designers seeking to devise never-before-imagined products. Although their place in the digital revolution was initially often limited to making computers' protective shells, the introduction of software and the necessity of use-friendly interfaces led to an expanded role that fused skills from graphic design, engineering, and industrial design. In this landscape it was designers who drove the transformation of new technologies into broadly accessible consumer products.

Silicon Valley's rapid growth and embrace of risk taking gave rise to a variety of innovative design practices, from iterative prototyping to design research. Visionary design, which anticipated future technologies while pushing collective tolerance for the place of technology in everyday life, became central to the region's culture of "failing forward." Twenty-four-hour connectivity is now widely accepted as the norm, but it was once perceived as too intrusive. Although the means for producing novel digital products may exist, designers and the public do not always share a singular stance toward the social impact of technological developments.

Exercise 1. *This text is from San Francisco Museum of Modern Art exposition. Try to outline 5 keywords that reflect the main idea of the text. What made it difficult to understand the text and what helped you?*

Exercise 2. *Use the information in the following reading passage to help you match the terms below with the appropriate explanation or definition.*

A processor consists of many different electronic circuits and devices for performing control functions, arithmetic and logic operations, and data transfers. Data may be transferred from backing storage to the internal memory or from the internal memory to the arithmetic unit by means of conductive channels known as buses. The part of the processor which controls data transfers between the various input and output devices is called the control unit.

- | | |
|------------------------|---|
| 1. microprocessor chip | a. used to send address details between the memory and the address register |
| 2. registers | b. consists of an arithmetic-logic unit, one or more working registers to store data being processed, and accumulators for storing the results of calculations |
| 3. accumulators | c. a group of signal lines used to transmit data in parallel from one element of a computer to another |
| 4. control bus | d. groups of bistable devices used to store information in a computer system for high-speed access |
| 5. address bus | e. an electronic circuit, usually a quartz crystal, that generates electronic pulses at fixed time intervals to control the timing of all operations in the processor |
| 6. data bus | f. used for storing part of the operating system and application software known as 'firmware'; can only be read; cannot be written to or altered in any way |

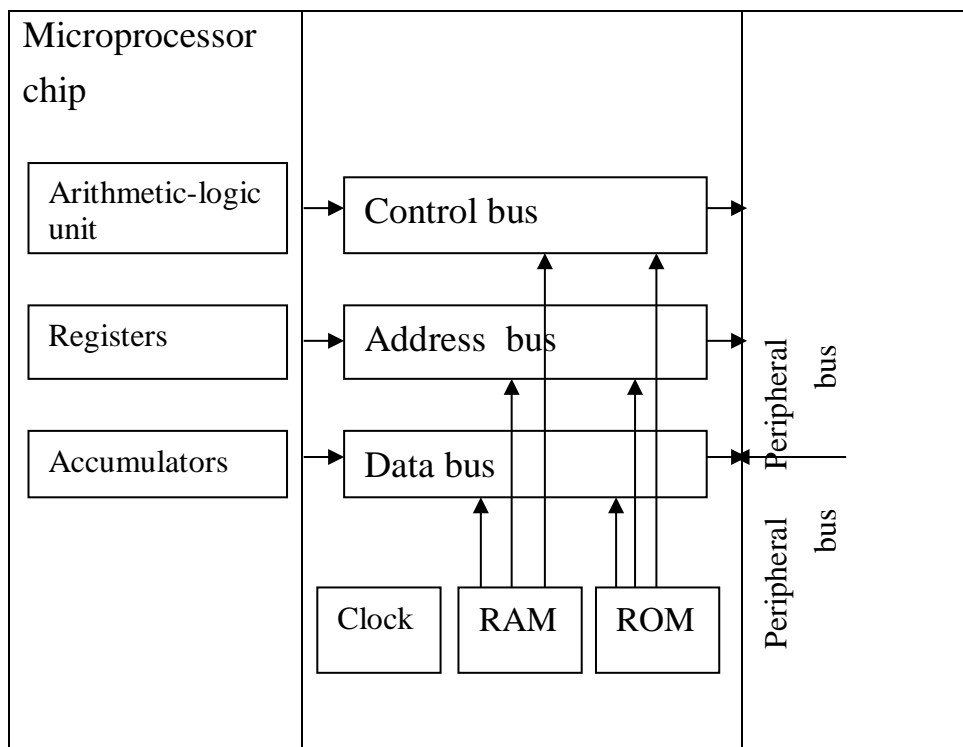
- 7. clock g. used to store numeric data during processing
- 8. RAM h. a group of signal lines dedicated to the passing of control signals
- 9. ROM i. used for the temporary storage of application programs and data; can be written to and read from

Exercise 3. Fill in the gaps using the words below and the information from the previous exercise. Look at the diagram and try to complete it.

*accumulators adaptor boards buses clock conductive
input or output devices microprocessor registers system board*

Structure of the processor

The processor consists of a (1) _____, which is a circuit board on which are mounted (2) _____ chips, memory chips, and other components linked together by (3) _____ lines or channels in the form of control, address, and data (4) _____. In addition, a processor has (5) _____, which are electronic circuits providing specialized functions such as graphics, or which connect a system board to (6) _____. The system board also consists of electronic devices, such as an electronic (7) _____ for controlling the speed of operation: (8) _____, which store numeric data during the course of processing; and various (9) _____, including sequence control register, address register, and function register.



NOUNS

Grammar Exercise 1. Put the words in the box in pairs (one uncountable, one countable) expressing similar ideas.

E.g: furniture – table ...

| | | | | | | | |
|---------------|---------------|-------------|----------|---------|------|-------|-----------|
| accommodation | advertisement | baggage | banknote | bread | cars | fact | |
| flat | furniture | information | job | journey | loaf | money | publicity |
| suitcase | table | traffic | travel | work | | | |

Grammar Exercise 2. Write the plural of the following nouns.

1. Wife
2. Stepmother
3. Bus.....
4. Sheep
5. Workbook
6. Hero
7. Way
8. Analysis
9. Handkerchief
10. Father – in - law
11. Quiz
12. Mouse
13. Parking space
14. Photo
15. Dictionary
16. Politics

Grammar Exercise 3. Choose the correct determiners in the following sentences.

1. He doesn't have (many / much) money.
2. I would like (a few / a little) salt on my vegetables.
3. She bought (that / those) postcards last night.
4. There are (less / fewer) students in this room than in the next room.
5. There is (too much / too many) bad news on television tonight.
6. I do not want (these / this) water.
7. This is (too many / too much) information to learn.
8. A (few / little) people left early.
9. Would you like (less / fewer) coffee than this?
10. This jacket costs (too much / too many).

Grammar Exercise 4. Fill in a, an or some where necessary.

1. We booked room in the Grand Hotel.
2. The police found glass from the broken window on the ground.
3. There is room for five people in my car.
4. She usually drinks glass of orange juice in the morning.
5. I need paper to write my letters on.

6. He decided to buy paper to read on the train.
7. I saw nice trousers and lovely dress in a shop today.
8. The statue is made of iron.
9. I have gotiron, but it is very old.
- 10.I am going to buy umbrella.

Grammar Exercise 5. *Fill in is or are.*

1. Be careful! Those scissors very sharp.
2. Maths John's favorite subject at school.
3. The police investigating the crime.
4. These trousers too big for me.
5. The stairs in my house made of wood.
6. His new furniture very modern.
7. The weather going to be bad this weekend.
8. My advice that you get a new job.
9. His new clothes very fashionable.
10. The team all training hard for Saturday's match.
11. The money in the jar for this week's shopping.
12. My pyjamas not on my bed. Where they?
13. Mumps a childhood disease.
14. My luggage in the car already.

Grammar Exercise 6. *Choose the best combination for each blank.*

| | | | | |
|-----------|-----------|---------------|-------------|------------|
| Class is | club has | orchestra is | school has | staff do |
| Class are | club have | orchestra are | school have | staff does |

- 1a In England, a state _____ to give time to religious education.
- 1b My daughter's _____ decided to hold their sports day next Saturday.
- 2a The _____ given \$5,000 to charity this year.
- 2b The _____ fifty per cent more members than a year ago.
- 3a The _____ not like the new manager.
- 3b The _____ not need to be increased.
- 4a Jane's _____ in Room 6.
- 4b Our _____ planning a party.

5a The _____ just turning up – let's hurry in.

5b An _____ composed of string, wind, and percussion instruments.

Grammar Exercise 7. Put in a / an or the where necessary. Leave an empty space if the sentence is already complete.

1. I don't usually like staying at _____ hotels, but last summer we spent a few days at _____ very nice hotel by _____ sea.
2. _____ tennis is my favorite sport. I play once or twice _____ week if I can, but I'm not _____ very good player.
3. I won't be home for _____ dinner this evening. I'm meeting some friends after _____ work and we're going to _____ cinema.
4. _____ unemployment is very high at the moment and it is very difficult for _____ people to find _____ work.
5. There was _____ accident as I was going _____ home last night. Two people were taken to _____ hospital. I think _____ most accidents are caused by _____ people driving too fast.
6. Carol is _____ economist. She used to work in _____ investment department of _____ Lloyds Bank. Now she works for _____ American bank in _____ United States.
7. **A:** What's _____ name of _____ hotel where you're staying?
B: _____ Imperial. It's in _____ Queen Street in _____ city centre. It's near _____ station.
8. I have two brothers. _____ older one is training to be _____ pilot with _____ British Airways. _____ younger one is still at _____ school. When he leaves _____ school, he hopes to go to _____ university to study _____ law.

Final Test

I. Choose the correct answer(s). One or more answers may be correct.

1. It's ... weather. a) terrible b) a terrible c) the terrible d) an awful
2. I like ... small animals. a) the b) – (nothing) c) every d) all
3. Who are ... people over there? a) that b) the c) these d) those
4. ... a hole in my sock. a) There's b) It's c) There is d) It is e) Is
5. ... is your phone number? a) Which b) What c) How d) There e) It
6. The plural of car is cars. Which of these are correct plurals?
a) journeys b) ladys c) minuts d) sandwichs e) babies

7. Her eyes ... very light blue. a) are b) have c) has d) is
8. I found ... money under my bed this morning.
a) a b) an c) some d) – (nothing)

II. *Translate into English the following sentences.*

1. В Грузії вирощують чай, бавовну та рис. (There is / There are...)
2. Риба – їх улюблена страва.
3. Інформація, яку ви нам надсилаєте, не точна.
4. Яка цікава робота!
5. Моя сестра дуже любить фрукти.
6. Ця шафа зроблена з натурального дерева.
7. Біля дерева немає квітів.
8. Компанія використовує нерухомість в комерційних інтересах.

III. *Find and put down variants of words' pronunciation and translation. Test your memory, covering the columns in turns.*

| Word | Pronunciation | Translation | Word | Pronunciation | Translation |
|-------------|---------------|-------------|---------------|---------------|-------------|
| Advisable | | | Infinite | | |
| Agreement | | | Law | | |
| Basis | | | Ornamentation | | |
| Consumer | | | Proprietary | | |
| Device | | | Public | | |
| Directly | | | Purchase | | |
| Distinguish | | | Requirement | | |
| Employee | | | Sculpture | | |
| Enforceable | | | Trademark | | |
| Enterprise | | | Unique | | |
| Essential | | | Vulnerable | | |

IV. *Complete the sentences with one of the words from exercise 2.*

1. The _____ price of new computer equipment is very high.
2. In a large organization, good internal communication is _____.

3. The new _____ will be passed by Parliament in the spring.
4. Applicants must satisfy the _____ for admission to the university.
5. His British lawyer arrived at Frankfurt airport this morning and went _____ to the prison.
6. _____ is a decoration added to something to make it more beautiful.
7. Our _____ is that you would pay by the first of the month.
8. The possibilities are _____.
9. This teacher is with _____ patience.
10. It is wonderful to have labor-saving _____ like the dishwasher and the microwave.
11. Each person's DNA is _____.
12. There are _____ who are employed on a seasonal or temporary _____.

UNIT 3

Computer Software

It starts with a guessing game. On a laptop's virtual blackboard, Subutai Ahmad draws a square, adds an "L" on its back to the square, and puts a "T" on top. "What's that?" asks the vice-president of the startup company Numenta. A milk pot? A car trailer? No. The computer replies that the most likely object illustrated is ... helicopter!

Even though this may appear like a game from the computer stone age, the demonstration gives us a look into the future of data processing. Supercomputers may play chess perfectly or help meteorologists forecast the weather. But the risk of differentiating a cat from a dog is still difficult for machines.

Human brains work in parallel, in contrast to computer processors that calculate serially. "We believe," Ahmad says, "that computers can get close to the processing power of our brains if the software architecture is based on our cerebral cortex." And this is what the program demonstrates – at least in principle. Even if so-called neural networks in the 1990s may have been able to show similar skills, what's special about the program is the hidden design of the software. "In Numenta's opinion," says Ahmad, "this marks a new beginning for the computer industry, just like the revolution of the microchip more than half a century ago."

The ambitions of Numenta are shared by scientists and engineers around the world working on artificially rebuilding our neuronal command center with software

and microprocessors. Not only do they develop neuronally inspired software, they imitate our thinking tissue through the use of detailed simulations and even build hardware versions of the neocortex. The goals are powerful computers, details about the structure of our brain and the hope of uncovering secrets of our consciousness.

At the end of the 1980s, a graduate student at the University of California, Berkeley, was refused permission to build a software model of the brain for his dissertation. The student, Jeff Hawkins, then headed for Silicon Valley, where he invented the PalmPilot, and a few years later, the Treo smartphone. Numenta is the latest company started by the wealthy 50-year-old individualist. Its selling point: Numenta is developing an algorithm similar to the one that governs our cognitive abilities.

Hawkins's project builds on a theory by Vernon Mountcastle, a neurobiologist who in 1970s pointed out that in the neocortex all the neurons are organized in the same way, even though different areas of the cortex perform different functions. Horizontally they are divided into layers, and vertically into columns. Mountcastle realized that they are governed by the same algorithm. The only difference is the kind of information they process.

Based on this idea, Hawkins suggests neural processing in the neocortex works as follows. Our thinking, and Numenta's software, is based on predictions, which follow from memories. Memories that help us make predictions are created over time by analyzing incoming sensory information level by level, until a pattern is filtered from the initial data chaos. These concepts help us to make predictions of the future when similar events happen.

But not everyone is convinced. Bob Knight, a neuroscientist at UC Berkeley, says that Hawkins' theory is compatible with our current knowledge of how the brain works. But he points out that the theory lacks details and experimental proofs.

Other brain engineers still want to copy the brain. The neuroscientist Henry Markram and his team at the Blue Brain Project at the Swiss Federal Institute of Technology in Lausanne are making a complete digital version of the brain, based on the latest scientific data. That is, they are not making a model of the whole brain, just one basic element, a column that is made of layers of the neocortex. And, to keep it simple, they do not simulate a human brain's column, but one of a rat's brain. But the scientists now hope to simulate larger brain structures step by step.

Exercise 1. Find the English equivalents for the words and word-combinations given below. Use them in the sentences of your own:

Обробка даних, кора головного мозку, обчислювальна потужність, мережа, аспірант, виконувати різні функції, свідомість, керувати, вказувати, закономірність, прогноз, останні наукові дані, заможний.

Exercise 2. This text was published in *Business Spotlight*. Try to outline 5 keywords that reflect the main idea of the text. What made it difficult to understand the text and what helped you?

Exercise 3. Make a research study regarding popular software that is used by your groupmates. Find out information regarding popular software downloads. Draw the diagram and present your results to the group.

Exercise 4. Find synonyms of the given below words and make up your own sentences.

Appear Common To Head Initial Latest Reply To Simulate To Work

Exercise 5. Put one of these words in each sentence:

broadcast confidentiality contract (2) copyright (2) hold(s) important information infringement intellectual know-how legal (2) permission (2) property protection secret

1. If you own _____ on something, it is _____, and other people must pay you to _____, publish, or perform it. 2. The court case was brought to decide who _____. 3. _____ is a situation in which _____ must be kept _____. 4. The Chinese are buying products, equipment, and _____ from abroad. 5. Copying this videocassette without _____ would be an _____ of copyright. 6. The company filed for court _____ from its creditors. 7. You may wish to seek _____ advice before signing _____. 8. The driver's blood-alcohol level was three times the _____ limit. 9. The company has applied to court for _____ to renegotiate _____.

MODAL VERBS

Grammar Exercise 1. Rewrite the following sentences in future and past.

1. They can read English books.
2. We must go home before it gets dark.
3. You may take my dictionary and keep it.
4. The manager is to arrive at 3 p.m.

5. I have to leave now.

Grammar Exercise 2. *Find mistakes in the following sentences.*

1. My granny doesn't can use a smartphone.
2. My brother can play chess when he was 5.
3. Does Alex has to leave before the end of the class?
4. I am so angry with him. I must kill him!
5. He could do this work without my help?
6. Jane can be able to help you.
7. What have I to do to get a driver's license?
8. Carol needn't get bored in her job. She does the same thing every day.
9. I was to the cinema last week.
10. I haven't decided yet where to spend my holidays. I have to go to Ireland.

Grammar Exercise 3. *Complete the following sentences.*

1. Perhaps mother is in the garden. Mother _____.
2. John's advice is often quite useful. _____ can _____.
3. It's necessary for you to learn this route. You _____.
4. We arranged to have dinner together. _____ are _____.
5. The device is probably very expensive. _____ be _____.
6. The child is frequently very annoying. _____ can _____.
7. It's necessary for you to come home early tonight. You _____.
8. Possibly the dog is hungry. The dog _____.
9. The doctor agreed to come tonight. _____ is to _____.
10. The children are presumably very happy now. _____ be _____.

Grammar Exercise 4. *Fill in the gaps with the following modal verbs or their equivalents in the right form. Sometimes more than one verb is appropriate.*

can may must be to should need

1. _____ you help me in any way?
2. He is in Paris now. He _____ be in London.
3. _____ I use your phone.
4. I _____ the party early last night. I wasn't very well.
5. The children are happy because they _____ (not) do any homework today.
6. It's later than I thought. I _____ go now.
7. You _____ see any elephants in Siberia.
8. You _____ turn on the light; I can see quite well.

9. He _____ be at home now. Let's ring him up. I'm sure he is there.
10. We've got plenty of time. We don't _____ to hurry.
11. Sue _____ to help them tomorrow.
12. _____ I have a word with you, please?
13. I generally leave work at 6 p.m., but I _____ leave earlier on Fridays.
14. He _____ be at home. He _____ be out.
15. Did he really do that? He _____ be crazy.
16. We _____ ring the bell. I've got a key.
17. A Zoo notice: Visitors _____ feed this animal.
18. I have got five lottery tickets. I _____ win something.

Grammar Exercise 5. Write questions to the following answers. Use modal verbs.

1. _____
I could when I was a child.
2. _____
No, it's too difficult.
3. _____
Half an hour.
4. _____
Unfortunately, I can't.
5. _____
Maybe, I don't know.
6. _____
Do, please.

Grammar Exercise 6. Make up the sentences with the given words.

- i. books/ have/ many/ you/ buy/ so/ why/ did/ to?
- ii. the/ Ukrainian/ can/ into/ article/ she/ translate?
- iii. like/ you/ any/ may/ book/ take/ you.
- iv. sure/ he/ tonight/ am/ may/ not/ come/ but/ I.
- v. help/ she/ my/ was/ without/ able/ it/ to/ do.
- vi. I/ him/ a/ but/ letter/ I/ to/ send/ was/ forgot.
- vii. I/ you/ what/ not/ forget/ must/ you/ told.
- viii. job/ wear/ have/ in/ uniform/ you/ your/ to/ do/ a?
- ix. be/ he/ you/ with/ must/ angry.
- x. time/ we/ in/ must/ station/ walk/ the/ fast/ to/ to/ get.

Grammar Exercise 7. *Translate the following sentences into Ukrainian.*

1. Я зможу почати роботу завтра вранці.
2. Я не можу зараз підготувати цю документацію, в мене немає часу.
3. Він зможе зустріти цих інженерів завтра о п'ятій годині.
4. Ви обов'язково повинні запросити їх на ланч.
5. Ти можеш розповісти мені про це? – Ні не можу.
6. Ви дуже добре розмовляєте англійською. Вам багато доводиться над ним працювати?
7. Їй сьогодні треба залишитись вдома, її дитина захворіла.

Grammar Exercise 8. *Study the situations and respond to each one using an appropriate modal verb.*

1. You want to have a day off work next week. Ask for your boss' permission.
2. You are at a job interview. You type fast, you use computers and you speak two foreign languages. Tell the interviewer about your abilities.
3. You are in the car with your friend. It's hot and you want him to open the window. Make a request.

Final Test

I. *Substitute the underlined words with the synonyms given below.*

1. It is potentially more costly than defending registered rights.
a) problematic b) cheap c) expensive d) affordable
2. Trade secrets are difficult to maintain over longer periods.
1. keep b) support c) realize d) store
3. Time limit varies according to the nature of the work.
a) changes b) fluctuates c) differs d) depends
4. It is free and automatically safeguards your original works of art, literature, etc.
a) sacrifices b) develops c) keeps d) protects
5. It can also act as a deterrent to potential infringers.
a) protection b) defence c) restrain d) authority
6. You are vulnerable when employees with this knowledge leave your firm.
a) unsafe b) dangerous c) unhappy d) unfair
7. You need to be careful not to restrict the contractor's right to earn a living.
a) increase b) enter c) limit d) exaggerate

II. Match the words given below with their definitions.

- Forecast a) a series of actions or events that together show how things normally happen or are done
- Network b) information or evidence that shows that something is definitely true or definitely exists
- Pattern c) to produce the features of something in a way that seems real but is not
- Simulate d) a system of lines or similar things such as roads or wires that are connected to each other
- Proof e) a statement about what is likely to happen, based on available information and usually relating to the weather, business, or the economy

III. Choose the correct form of the verb.

- A:** *Could/ May/ Shall* you tell me the time, please.
B: Yes. It's a quarter past ten.
- A:** *Shall/ Would/ Could* I speak to Jenny, please.
B: I'm sorry, she is not here at the moment.
A: Oh. *Must/ Shall/ Would* I call later, then?
- A:** *Can/ Shall/ May* you post this letter for me, please?
B: Certainly. I will do it on my way home from work.
- A:** Did you call Jane?
B: No, I *needn't/ mustn't* because I saw her at work.
- A:** You *mustn't/ needn't/ couldn't* lock the door.
B: Oh, will you do it when you leave?

IV. Choose the correct answer.

- A letter arrives at your house. You are sure it is from Paul.
a) It might be from Paul. b) It must be from Paul.
- You want your neighbor to babysit for you tonight.
a) Would you babysit for me tonight? b) Must you babysit for me tonight?
- You are looking for your scarf. You think it is upstairs.
a) It can't be upstairs. b) It could be upstairs.
- You have toothache. Your mother gives you some advice.
a) You may go to the dentist. b) You should go to the dentist.

UNIT 4

Functional Organisation Of the Computer

In general, the term computer is used to describe a device made up of a combination of electronic and electromechanical components. As it has been mentioned before, computer has no intelligence by itself and is referred to as hardware. A computer system is a combination of five elements: hardware, software, people, procedures, data / information.

When one computer system is set up to communicate with another computer system, connectivity becomes the sixth system element. In other words, the manner in which the various individual systems are connected (e.g., by phone lines, microwave transmission, or satellite) is an element of the total computer system.

Computer hardware can be divided into four categories: (1) input hardware, (2) processing hardware, (3) storage hardware, (4) output hardware.

Hardware comes in many configurations, depending on what the computer system is designed to do. Hardware can fill several floors of a large office building or can fit on your lap.

Looking through the definitions given below fill in the gaps with the following words:

CD, hard disk, input hardware, keyboard, light pen, memory, microphone, modem, monitor, mouse, output hardware, printer, processing hardware, RAM, ROM, scanner, storage hardware, thumb drive, video camera.

The purpose of (1)_____ is to provide the user with the means to view information produced by the computer system. Information is output in either hardcopy or softcopy form. Hardcopy output can be held in your hand, such as paper with text (word or numbers) or graphics printed on it. Softcopy output is displayed on a monitor.

(2)_____ is a component with a display screen for viewing computer data, television programs, etc.

(3)_____ is a computer output device that produces a paper copy of data or graphics.

(4)_____ is an example of communication hardware – an electronic device that makes possible the transmission of data to or from computer via telephone or other communication lines.

The purpose of the (5)_____ is to collect data and convert it into a

form suitable for computer processing. The most common input device is a (6)_____. The (7)_____ is a hand held device that can be connected to the computer by small cable or without it. As it is rolled, the cursor moves across the screen. When the cursor reaches the desired location, the user usually pushes a button once or twice to signal a menu selection or a command to the computer.

The (8)_____ uses a light sensitive photoelectric cell to signal screen position to the computer. Another type of input hardware is (9)_____ that is used to input graphics as well as typeset characters. (10)_____ and (11)_____ can be also used to input data into the computer.

The purpose of (12)_____ is retrieve, interpret and direct the execution of software instructions provided to the computer. The most common components of it are the Central Processing Unit (CPU) and main memory.

CPU is the brain of the computer. It reads and interprets software instructions and coordinates the processing activities that must take place. The design of the CPU affects the processing power and the speed of the computer, as well as the amount of main memory it can use effectively. With a well-designed CPU in your computer, you can perform highly sophisticated tasks in a very short time.

(13)_____ is the system of PC component in which information is stored.

There are two types of it:

(14)_____ is the volatile computer memory, used for creating loading, and running programs and for manipulating and temporarily storing data;

(15)_____ is nonvolatile, nonmodifiable computer memory, used to hold programmed instructions to the system.

The more memory you have in your computer, the more operations you can perform.

The purpose of (16)_____ is to store computer instructions and data in a form that is relatively permanent and retrieve when needed for processing. This hardware serves the same basic functions as do office filing systems except that it stores data as electromagnetic signals. The most common ways of storing data are:

(17)_____, that is a rigid disk coated with magnetic material, for storing programs and relatively large amounts of data;

(18)_____ that is a small round piece of hard plastic with sound recorded on it or computer information stored on it. There are recordable, rewritable or read-

only memory types of compact disc;

(19)_____ is a data storage device that includes flash memory with an integrated USB interface. It is typically removable, rewritable and much smaller than an optical disc.

Exercise 1. *Find the English equivalents for the words and word-combinations given below. Use them in the sentences of your own.*

Призначення, з'єднувати, бажане місцезнаходження, керувати виконанням інструкцій, виконувати складні завдання, постійний, тимчасово збережені дані, нестійкий, відносно маленька кількість, за виключенням, вкритий спеціальним матеріалом.

Exercise 2. *Which of the listed below statements are true/false. Specify your answer using the text.*

1. Computer is an electronic device therefore hardware is a system of electronic devices.
2. The purpose of the input hardware is to collect data and convert it into a form suitable for computer processing.
3. Scanner is used to input graphics only.
4. The purpose of processing hardware is to retrieve, interpret and direct the execution of software instructions provided to the computer.
5. CPU reads and interprets software and prints the results on paper.
6. User is unable to change the contents of ROM.
7. Modem is an electronic device that makes possible the transmission of data from one computer to another via telephone or other communication lines.
8. Printer is a processing hardware because its purpose is to show the information produced by the system.
9. An empty CD you can use only once to record music or information from a computer.
10. The purpose of storage hardware is to store computer instructions and data in a form that is relatively permanent and retrieve them when needed.

Exercise 3. *Discuss the following questions in small groups:*

- What parts are essential for PC operation?
- What is the most expensive part of the hardware?
- What other hardware devices do you know? What are they for? Do you know how to use them?

ADJECTIVES/ ADVERBS

Grammar Exercise 1. *Fill in the gaps with the correct adjective from the list.*

loud warm narrow dark hot strong tired old comfortable bright long

It was cold 1)..... night. There was a 2).....wind blowing and it was starting to rain. James was driving home after a 3).....day at work and he was very 4)..... . The road he was driving along was 5).....and winding, but it was the quickest way home. Suddenly, there was a 6).....flash of lightning and a 7).....crash of thunder as the storm broke. Jame's car was 8)....., but he put his foot down because he wanted to get home quickly. He wanted to sit in his 9).....chair by the 10).....fire and drink a cup of 11).....coffee.

Grammar Exercise 2. *Identify the adjective or the adverb in each sentence, as in the example.*

1. Tom is very clever. (adjective)
2. He slowly left the room.
3. The exam was difficult.
4. Ue's house is always tidy.
5. Laser beams are used extensively in surgery.
6. Sarah smiled happily.
7. The teacher was angry.
8. Sad songs made me cry.
9. She quietly closed the door.
10. It's easy to make mistakes.

Grammar Exercise 3. *Turn the following nouns into adjectives.*

Interst, beauty, wonder, success, danger, help, doubt, access, form, fame, difference, use, activity, comfort, youth, absence, France, China, Japan, cold, length, nature.

Grammar Exercise 4. *Turn the following words into adverbs.*

Slow, quiet, easy, fast, soon, early, often, hard, lat, bright, usual, attentive, good, bad, noisy, fluent, happy, quick, loud, lazy, possibility, simplicity, system, hope, pretty.

Grammar Exercise 5. *Fill in the gaps with the correct words.*

1. He is _____(good/ well) at languages.
2. He speaks English _____ (good/ well).
3. Walk _____ (quick/ quickly)! You are very _____ (slow/ slowly).
4. Golf is _____ (rlax/ relaxing/ relaxingly). I don't like playing it _____ (quick/ quickly).

5. He works _____ (hard/ hardly).
6. I always do things _____ (quick/ fast).
7. Maria speaks English _____ (good/ fluently).
8. Professor remained _____ (sad/ sadly).
9. The flowers smell _____ (sweet/ well).
10. Mary feels _____ (bad/ well) about her test grade.
11. Children often become _____ (boring/ bored) at the meetings.
12. It sounds _____ (interesting/ well).

Grammar Exercise 6. *Cross out the unnecessary word.*

1. Mark's voice is very much louder than Alan's.
2. Mrs. Smith is the most oldest teacher in the school.
3. Playing golf isn't as more tiring as playing football.
4. As time went by, it got darker and the darker.
5. The more you study, the better than your marks will be.
6. This task is the less difficult than the others.
7. Jane is as much tall as Sarah.
8. It was a quite an exciting film.

Grammar Exercise 7. *Compare the following nouns.*

1. Spring, summer, winter, autumn.
 - a) _____
 - b) _____
 - c) _____
2. Bunjee jumping, football, ping pong.
 - a) _____
 - b) _____
 - c) _____
3. Ocean, river, stream, sea.
 - a) _____
 - b) _____
 - c) _____
4. Gold, aluminium, copper, iron.
 - a) _____
 - b) _____
 - c) _____

Grammar Exercise 8. *Fill in the gaps with the appropriate forms of adjectives or adverbs.*

1. The hotel was surprisingly big. I expected it to be
2. February is than March.
3. You're sitting too near to the TV-set. Can you move a bit away?
4. We have rain in summer than in autumn.
5. My elder brother isthan me.
6. Is your headache better? – No, it's
7. I know him well – probablythan anybody else.
8. Nina isthan her husband is.

Grammar Exercise 9. *Make up the sentence with the given words.*

1. news/ let/ hear/ me/ further/ know/ you/ any/ if.
2. station/ this/ way/ to/ is/ the/ the/ shortst.
3. possible/ the/ as/ as/ letter/ short/ be/ must.
4. why/ come/ moment/ does/ the/ see/ he/ to/ worst/ always/ me/ at/ possibl?
5. usual/ the/ than/ was/ center/ crowded/ city/ less.
6. first/ her/ at/ illness/ thought/ was/ we/ much/ than/ serious/ more.
7. enough/ you/ know/ well/ English.
8. down/ the street/ straight/ go.
9. lately/ not/ I/ there/ have/ been.

Final Test

I. *Find the proper continuation for the following sentences.*

1. ROM is.....
 - a) rigid disk coated with magnetic material, for storing computer programs and relatively large amounts of data.
 - b) volatile computer memory, used for creating, loading, and running programs and for manipulating and temporarily storing data; main memory .
 - c) nonvolatile, nonmodifiable computer memory, used to hold programmed instructions to the system.
2. Modem is.....
 - a) a thin, usually flexible plastic disk coated with magnetic material, for storing computer data and program.

- b) A set of key, usually arranged in tires, for operating a typewriter, typesetting machine, computer terminal, or the like.
- c) An electronic device that makes possible the transmission of data to or from computer via telephone or other communication lines.

3. The CPU is.....

- a) the part of a television or computer on which a picture is formed or information is displayed.
- b) the key component of a computer system, containing the circuitry necessary to interpret and execute program instructions.
- c) a palm-sized device equipped with one or more buttons, used to point at and select items on a computer display screen and for controlling the cursor by means of analogous movement on a nearby surface.

II. *The definitions of what other computer components are mentioned in the previous task?*

III. *Which of the listed below terms have the same equivalents in your native language:*

computer, Internet, metal, processor, scanner, information, data, microphone, modem.

IV. *Circle the letter of the underlined portion which is not correct. Put down the right variant.*

1. I was disappointed that my exam results were so badly.

A B C D

2. Last night I went to bed early than usual.

A B C D

3. I am afraid the problem is complicated than it seems.

A B C D

4. You will find your way around the town easy if you use google map.

A B C D

5. Accommodation here is expensive than in my country.

A B C D

6. The city is crowded than it used to be.

A B C D

7. Everest is the high mountain in the world.

A B C D

8. Rose is terrible upset about losing her job.

9. Linda likes wearing colorfully clothes.

A B C D

10. Do you usually feel nervously before your examinations?

A B C D

UNIT 5

Websites

There is a huge collection of documents that are connected by hypertext links and can be accessed through the Internet. One day I came across Alfred Nobel's unique will that was behind the entire Nobel system. Who was he and why did he want to donate his entire fortune to an international award? There is an answer in the Nobel Museum (<http://nobelcenter.se/>; <https://www.stockholm.com/en/view/the-nobel-museum>) in the heart of Stockholm the Old Town (Gamla Stan) which has the Exhibition that acquaints us with Alfred Nobel as the idealist, inventor, entrepreneur, and cosmopolitan, along with the international perspective that distinguished his life and will.

After inventing a dynamite, Swedish-born Alfred Nobel became a very rich man. However he foresaw its universally destructive powers too late. Nobel preferred not to be remembered as the inventor of dynamite, so in 1895, just two weeks before his death, he created a fund to be used for awarding prizes to people who had made worthwhile contributions to mankind. Nobel's original legacy of nine million dollars was invested, and the interest on this sum is used for the awards which vary from \$30,000 to \$125,000. Originally there were five awards: literature, physics, chemistry, medicine and peace. Economics was added in 1968, just sixty-seven years after the first awards ceremony.

Every year on December 10, the anniversary of Nobel's death, the awards (gold medal, illuminated diploma, and money) are presented to the winners. The Nobel Prize Ceremony in the Concert Hall and the banquet at the City Hall (with the famous Nobel ice cream on the menu) are only the tip of the iceberg of the Nobel system. The Centennial Exhibition, in the Museum that has been mentioned earlier, describes this unique system, which handles nominations from all over the world and a great number of expert opinions – work that has been carried out continuously by the various Nobel committees during the past 100 years. Sometimes politics plays an important role in the judges' decision. Americans have won numerous science awards, but relatively few literature prizes.

No awards were presented from 1940 to 1942 at the beginning of World War II. Some people have won two prizes, but this is rare; others have shared their prizes. For example, twice honored in 1903 (in Physics) and 1911 (in Chemistry), the Nobel Prize in was awarded to Marie Curie, for her research on radiation phenomena, including the discovery of two new elements -- Radium and Polonium. And in 1987, Georg Bednorz shared the Nobel Prize in Physics with his mentor, K. Alex Müller "For their important breakthrough in the discovery of superconductivity in ceramic materials." Their breakthrough, accomplished in an IBM research lab in Switzerland, centered around the fabrication of a new copper-oxide compound that was superconducting at temperatures high enough to dramatically extend the applications of superconductors.

Ivan Pavlov (1904), Ilya Mechnikov (1908), Nikolay Semenov (1956), Boris Pasternak (1958), Nicolay G. Basov and Aleksandr M. Prokhorov (1964), Mikhail Sholokhov (1965), Alexander Solzhenitsyn (1970), Wassily Leontief (1973), Andrei Sakharov (1975), Pyotr Kapitsa (1978), Mikhail Gorbachev (1990), Alexei A. Abrikosov (2003) and lots of other so called natives received awards in medicine, chemistry, literature, physics, economics and peace.

The Nobel Museum illustrates a century of creativity. Follow the changes of the 20th century through the Nobel Prize and the Laureates. You can explore the work and the ideas of more than 700 creative minds presented through short films, original artifacts and computers, in the exhibition "Cultures of Creativity." During the visit of the Nobel Museum you also have an opportunity to see the dynamite, the mould and the books that changed the world! The Nobel Museum has an inspiring Book- and Gift shop well worth a visit. This place does not provide specific answers for the questions like "What is creativity?", but gives visitors the chance to think about such questions for themselves...

Exercise 1. *Where do you look for the information, if you need to find out about interesting places, people, inventions, etc.? Why?*

What keywords would you use to make this search? What do (or do not) you like about using websites?

Exercise 2. *Find the English equivalents for the words and word-combinations given below. Use them in the sentences of your own.*

Ціла спадщина, винахідник, підприємець, передбачати, церемонія нагородження, інвестувати, віддавати перевагу, численні нагороди, відносно,

переливчастий диплом, швед за походженням, цінні вклади, банкет, численні, згаданий раніше, дослідження явища радіації, сполучення, завершений у лабораторних умовах, отримувати, виставка.

Exercise 3. Match the English words and word-combinations given below with their Ukrainian equivalents.

- | | |
|--|--|
| 1. created a fund | 1. поділити виграш /приз |
| 2. this is rare | 2. надзвичайно перевищувати |
| 3. worthwhile contributions to mankind | 3. рідко трапляється |
| 4. the judges' decision | 4. важливе досягнення у відкритті чогось |
| 5. original legacy | 5. ювілей (річниця) |
| 6. to share the prize | 6. застосування суперпровідників |
| 7. the interests on the sum | 7. цінні вклади у розвиток людства |
| 8. anniversary | 8. створити фонд |
| 9. the important breakthrough in the discovery of smth | 9. первісний спадок |
| 10. dramatically extend | 10. відсотки з суми |
| 11. applications of superconductors | 11. рішення суддів |

Exercise 4. Due to the context of the text make up questions to the answers given below.

1. _____
In 1895.
2. _____
Six fields. They are literature, physics, chemistry, medicine, peace and economics.
3. _____
Yes, it can play an important role in selecting the winners.
4. _____
On December 10.
5. _____
In science area.

Exercise 5. Answer the following questions.

1. Why was the Nobel prize established?
2. How does the sum for awards vary?
3. When there were no awards presented?

4. Do you know where are the ceremonies held?
5. Can an individual win two awards?
6. Who do you know has won Nobel prizes?
7. Do you know any Ukrainian (or Soviet) scientists who won this prize?
8. What invention do you think is useful nowadays and is worth being given the Nobel prize?
9. What useful things should be invented in future that will be worth being given the Nobel prize?

PAST TENSES

Grammar Exercise 1. *There are sentences in the text where past tenses are used. Find and read their subjects. If there are sentences where present perfect tense is used, find them and explain the variants of using present perfect and past indefinite.*

E.g. After inventing a dynamite, Swedish-born Alfred Nobel became a very rich man.

“Became” is the subject of this sentence. This is past indefinite/ simple tense.

Some people have won two prizes, but this is rare.

“Have won” is the subject. Present perfect is used to express the result.

Grammar Exercise 2. *Put one of these verbs in each sentence in past indefinite:*

buy catch cost drink fall hurt sell spend teach throw win write

1. Mozart _____ more than 600 pieces of music.
2. “How did you learn to drive?” “ My father _____ me.”
3. We couldn’t afford to keep our car, so we _____ it.
4. I was very thirsty. I _____ the water very quickly.
5. Paul and I played tennis yesterday. He’s much better than me, so he _____ easily.
6. Don _____ down the stairs this morning and _____ his leg.
7. Jim _____ the ball to Sue, who _____ it.
8. Ann _____ a lot of money yesterday. She _____ a dress which _____ \$100.

Grammar Exercise 3. *Put the verbs in brackets into the past simple or the past continuous tense:*

A In prehistoric times, people 1)(live) in caves. They 2) (hunt) animals which they then 3) (use) for food and clothing. They 4)(make) everything by themselves and they 5) (have) very simple lives.

B The boys 1).....(play) football on the river bank while the girls 2)..... (talk). Everyone 3)(enjoy) the picnic when suddenly they 4) (hear) a loud cry from further up the river. They all 5) (rush) to see what was wrong.

C Charlie Chaplin 1) (become) one of the best-known personalities in America within two years of his first appearance in motion pictures. He 2)..... (be) so famous that no studio could afford to pay him, so he 3)..... (appear) only in films which he 4) (produce) himself.

Grammar Exercise 4. *Make up your own sentences, using new words and past tenses.*

Find the words in the box

(5 words cross, 5 words down)

I N V E N T I O N O S M U G A
N Z F O R S E E P I K E F A D D
T D I A W A R D C A L R I P Q
E J P O V E U X F O E Z I O L
R C R A D I S T R U C T A W N
E W E N T U H U B Y T S M E G
S O F G Y O R X I F Q C I R Y
T P E J D A V T O L K A S I E
V H R I K S A Y E T Z I M N J

Grammar Exercise 5. *Use either the present perfect or the simple past tense in the following sentences. Find the markers of the tenses:*

1. John wrote / has written his report last night.
2. Bob saw / has seen this movie before.
3. Jorge read / has read the newspaper already.
4. We didn't begin / haven't begun to study for the test yet.
5. George went / has gone to the store at ten o'clock this morning.
6. Joan travelled / has travelled around the world.
7. Betty wrote / has written a letter last night.
8. Jill phoned / has phoned his employer yesterday.
9. We didn't see / haven't seen this movie yet.

Grammar Exercise 6. Are the underlined parts of these sentences right or wrong?

Correct the ones that are wrong:

1. I've lost my key. I can't find it anywhere.
2. Have you seen the news on television last night?
3. I've bought a new car. Do you want to see it?
4. I've bought a new car last week.
5. Where have you been yesterday evening?
6. Jenny has left school in 1991.
7. I'm looking for Mike. Have you seen him?
8. I'm very hungry. I haven't eaten anything today.
9. Diane hasn't been at work yesterday.
10. When has this book been published?

Final Test

I. Fill in the space with the correct answer.

1. The scientist ... its universally destructive powers too late.
a) foresee b) has foreseen c) foresaw d) was foreseen
2. "Has Maria called yet?" – "'Yes, she But she didn't leave a message."
a) did b) called c) hasn't d) has
3. I remember you. You ... to go to school here.
a) use b) used c) were using d) were used
4. What ... when I rang you up?
a) you were doing b) were you doing c) did you do d) did you
5. She was the sort of woman who was always bothering about ...
a) what would think other people c) what would other people think
b) what other people think d) what other people would think
6. The cyclist ... he crossed the main street.
a) looked with caution after c) was looked cautious when
b) had looked cautiously before d) looks cautious when
7. While attempting to reach his home before the storm,
a) the bicycle of John broke down c) John had an accident on his bicycle
b) it happened that John's bike broke down d) the storm caught John

II. Circle the letter of the underlined portion which is not correct.

- a) They had breakfast when I knocked at the door.

A B C D

b) Ann asked not me to tell anybody what happened.

A B C D

c) Did you used to eat a lot of sweets when you were a child?

A B C D

d) He went to bed while he had brushed his teeth.

A B C D

e) When I metted him he had been working as a waiter for a year or so.

A B C D

f) John lived in New York since 1960 to 1975, but he is now living in Detroit.

A B C D

g) The professor had already given the homework assignment when he had

A

remembered that Monday was a holiday.

B C D

III. *Make up the sentence with the given words*

1. Have/ few/ Americans/ relatively/ prizes/ won/ literature.
2. And/ mathematics/ himself/ at the age/ began/ a textbook/ of twelve/ geometry/ teaching/ picked up/ Einstein/ and.
3. Given/ was/ it/ we/ had/ the/ successful/ party/ least.
4. A teenager/ play/ me/ my/ I/ all/ was/ when/ parents/ homework/ my/ never/ until/ let/ finished/ had/ I.
5. We/ ourselves/ house/ money/ to/ decorate/ save/ the.
6. Wrong/ as/ was/ soon/ something/ knew/ arrived/ that/ as/ we/ home/ we.
7. Letter/ have/ to/ the/ did/ write/ you/ time?
8. Theatre/ I/ year/ often/ the/ last/ went/ to.
9. He/ nineteen/ went/ was/ to/ he/ work/ when/ in/ France.
10. Up/ time/ morning/ what/ did/ get/ this/ you?
11. Cathy/ the parcel/ phoned/ when/ office/ the/ post/ arrived.

UNIT 6

Internet

Millions of people around the world use the Internet to search for and retrieve information on all sorts of topics in a wide variety of areas including the arts, business, government, humanities, news, politics and recreation. People communicate

through e-mails, discussion groups, chat channels and other means of informational exchange. They share information and make commercial and business transactions. All this activity is possible because tens of thousands of networks are connected to the Internet and exchange information in the same basic ways.

Our foreign colleagues refer to the Internet resources where they can find information about National Metallurgical Academy of Ukraine and its staff members. It is known that the Academy is one of the oldest higher educational establishments in Ukraine. It was founded in 1899 then it was the metallurgical faculty at the Ekaterinoslav Mining College. In 1930 it became the independent institute. During the years of its existence the institute has made a big progress. As a result in 1999 it acquired the status of National Academy of Ukraine.

The history and development of the Academy, its scientific research schools are influenced by the development of industrial, scientific and educational areas in Ukraine. Such outstanding Academicians and Corresponding Members of the National Ukrainian Academy of Sciences as L.V.Pisarzhevsky, M.A.Pavlov, A.V.Kirsanov, O.P.Chekmayov, Y.M.Taran-Zhovnir, M.I.Gasik, K.F.Starodub, P.T.Yemelyanenko, K.P.Bunin, S.N.Kozhevnikov, V.I.Bolshakov, V.I.Baptizmansky, etc. are representatives of NmetAU.

Gasik Mihail Ivanovich was born on June 30, 1929 in village Semenivka, Pologivsky district, Zaporizhsky region. Doctor of Engineering Sciences (1969), Professor (1971), Academician (1990), a winner of the National USSR Prize (1977), National Prizes of Ukraine (1998, 2004), Prize of USSR Council of Ministers (1990), Honoured Scientist of Ukraine (1999). He graduated from Dnipropetrovsk Metallurgical Institute in 1954 as an engineer-metallurgist. He has been working in Metallurgical Academy since 1954 and has been a chairman of the Elctrometallurgical department since 1973. The main directions of his scientific research are physical-chemical fundamentals of high-temperature interactive processes in metallurgical and oxygen systems based on manganese, silicon, chromium, aluminium; development and introduction of new effective methods of production for alloy refining in solid and liquid states; steel melting for nuclear energy, oil-gas industry, machine-building technology; developing theoretical fundamentals and methods of production connected with steel electrometallurgy, ferro-alloys, electro-heating of non-ferrous metals. He has more than 420 scientific publications that include 197 inventions, 21 monographes. He was working in the

Problem Solving Committee “Ferrous Metallurgy in USSR”, Scientific Committee concerning scientific-engineering and social-economical problems of prognostication lead under Presidium of AS and SCES (State Committee of Engineering Sciences) USSR, a Head of SMC concerning Ferrous Metallurgy specialization in USSR Educational Committee. Gasik is a member of the Specialized Council that licenses and accredits mining-metallurgical high educational establishments, a deputy of SMC (Scientific Metallurgical Committee) concerning “Metallurgy” at Ministry of Education in Ukraine. Among his awards there are Paton Prize (1995), Diploma presented by Presidium of the Supreme Soviet of the USSR (1977), Soros fund grant (1996), orders and medals.

Exercise 1. *In order to use the Internet effectively what criteria do you use for choosing to read a result or skip it?*

Exercise 2. *Why were these scientists famous? Match A and B.*

A

B

Lev Volodymyrovych Pisarzhevsky

worked in the field of metal forming, focused on improving rolling mills, developed new technological processes.

Yuryi Mykolayovych Taran-Zhovnir

discovered the effect of hardening carbon steel during tempering, developed a technology for the production of molds from liquid blast furnace iron. This allowed to increase the structural strength of steel more than twice.

Kyryl Fedorovych Starodub

one of the outstanding metallurgist, worked in the field of metallography of high-carbon iron alloys. He worked as a rector of Dnipropetrovsk Metallurgical Institute for over 30 years.

Olexandr Petrovych Chekmaryov

one of the most outstanding scientists in chemistry of the XX century, worked in the field of electronic chemistry. In 1924-1926 worked as a rector of Dnipropetrovsk Mining Institute.

Exercise 3. *Answer the following questions.*

1. What are the major milestones in the history of National Metallurgical Academy of Ukraine?
2. Choose a name of any prominent metallurgist and make a brief presentation about his impact on the development of metallurgy in Ukraine and world wide.
3. Make a list of chemical elements and terms in the field of Metallurgy mentioned in the text. Translate them into your native language.

Exercise 4. *Match the definitions of the following terms:*

heat treatment; electroplating; casting; plastic deforming; milling; soldering

- a) complex shaping of metal or other materials by removing material to form the final shape.
- b) a collection of processes wherein material is brought to a specified geometry by removing excess material using various kinds of tooling to leave a finished part that meets specifications.
- c) general notion for such processes as annealing, precipitation strengthening, quenching, and tempering
- d) common surface-treatment technique, which involves bonding a thin layer of another metal such as gold, silver, chromium or zinc to the surface of the product.
- e) a joining process that occurs at temperatures below 450 °C (842°F).
- f) process which involves using heat or pressure to make a workpiece more conductive to mechanical force.
- g) metalworking which includes pouring molten metal into a mold and allowing it to cool, with no mechanical force.

FUTURE FORMS

Grammar Exercise 1. *Fill in the gaps with the correct form of will or be going to and the verb in brackets.*

1. A: Why are you buying flour and eggs?
B: Because I (make) a cake.
2. A: I have decided what to buy Mum for her birthday.
B: Really? What (you/buy) for her?
3. A: Did you ask Jackie to the party?
B: Oh no! I forgot! I (ask) her tonight.
4. A: Could I speak to Jim, please?
B: Wait a minute. I (get) him for you.

5. A: What are your plans for the weekend?
B: I (spend) some time with my friends.
6. A: What are you doing on Friday night?
B: Oh, I (probably/stay) at home with my family.
7. A: Have you tidied your room yet?
B: No, but I promise I (do) it this afternoon.
8. A: Look at the boy!
B: Oh yes! He (climb) the tree.
9. A: Jason is very clever for his age.
B: Yes. He says he (become) a doctor when he grows up.
10. A: I'm too tired to cut the grass.
B: Don't worry! I (cut) it for you.

Grammar Exercise 2. *Ask and answer questions using the prompts below.*

Student A: When will you do the gardening?

Student B: I'll do it after I've done the shopping.

1. Do the gardening / do the shopping
2. Post the greeting cards / buy the stamps
3. Iron the clothes / tidy the bedroom
4. Water the plants / do the laundry
5. Finish the project / have my dinner
6. Pay the bills / take the car to the garage
7. Make an appointment / reply the emails
8. Apply documents / sign the Letter of Recommendation
9. Input data / find information
10. Use equipment / receive accumulator
11. Order business cards / improve the design

Grammar Exercise 3. *Put the verbs in brackets into the correct future tense.*

1. A: Are you looking forward to your holiday?
B: Oh, yes! This time next week I (lie) on the beach.
2. A: We're having a party on Saturday.
B: Oh. Good. I (make) a cake to bring along.
3. A: Have you finished that report yet?
B: Yes. I (give) it to you in a minute.
4. A: Why are you buying all those vegetables?

- B: Because I (make) vegetable soup.
5. A: This writing is too small for me to read.
B: Give it to me and I (read) it to you.
6. A: I (stay) at Claire's house tonight.
B: Alright. I won't expect you home, then.
7. A: Would you like to join me for lunch today?
B: Yes, please. I (meet) you at half past one.
8. A: (you/help) me with the shopping tomorrow?
B: Of course.
9. A: Are you excited about your trip?
B: Yes. This time tomorrow I (sit) on the plane.
10. A: I can't hear TV very well.
B: I (turn up) the volume.

Grammar Exercise 4. *Answer the following questions about yourself.*

1. What are you doing at the weekend?
2. How long will you have been studying English by the end of this term?
3. What do you think life will be like in the future?
4. Where are you going next summer?
5. What will you have done by the end of today?

Final Test

I. *Choose the right answer and finish the sentence.*

1. The Academy is
 - a) ...one of the youngest educational establishments in Ukraine.
 - b) ...one of the oldest educational establishments in Ukraine.
 - c) ...one of the most famous educational establishments in the world.
2. The course of tuition lasts for
 - a) two or three years b) four or seven years c) five or six years.
3. The first and the second year students are studying the following courses:
 - a) Mathematics, Mechanics, Russian.
 - b) Descriptive Geometry, Foreign Language.
 - c) The History of Ukraine, Geography, Chemistry.
4. Our Academy has Relations with China, Germany, Poland.
 - a) terminated b) short-term c) long-standing

II. *Cross the odd word out.*

1. Full-time; part-time; extra-mural; post-graduate.
2. Institute; Chamber; University; Academy.
3. Lectures; seminars; exams; tutorials.
4. Second-year student; final-year student; scientist; first-year student.

III. *Answer the following questions.*

1. What kinds of higher education are there in Ukraine today?
2. What kind of specialists does the Academy train?
3. What departments do you know in terms of this Academy?
4. What is the purpose of pre-diploma in-career training?
5. What do the final-year students work on?

IV. *Dr. Shevchenko and his colleagues are going to visit India. Read the information and talk about, as in the examples.*

What have they arranged?

▶ Leave / Ukraine / on Saturday

e.g. They are leaving Ukraine on Saturday.

▶ Presentation / Scientific Metallurgical Committee / next Tuesday

▶ Sign / agreements / several institutions

▶ Return / to Ukraine / in two weeks

What will they be doing while they are there?

▶ do / experiments

e.g. They'll be doing experiments while they're there.

▶ Visit / factories / the rest of the visit

▶ Collect / samples to take back to Ukraine

▶ Collaborate / foreign colleagues

What will they have done by the time they come back?

▶ Take / more than 3,000 photographs

e.g. They'll have taken more than 3,000 photographs.

▶ Have appointments / numerous engineers

▶ Analyze / ways of improving / methods of production

▶ See / interesting innovations

▶ Input data / advanced computer program

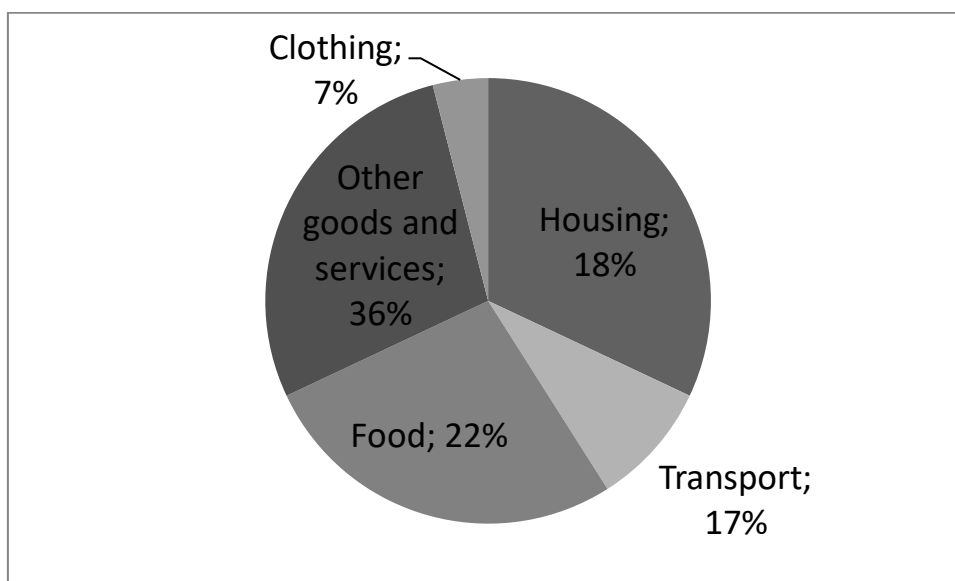
V. *You are writing an article for a newspaper about Dr Shevchenko's trip to India.*

Use your notes from the previous activity to complete the article below.

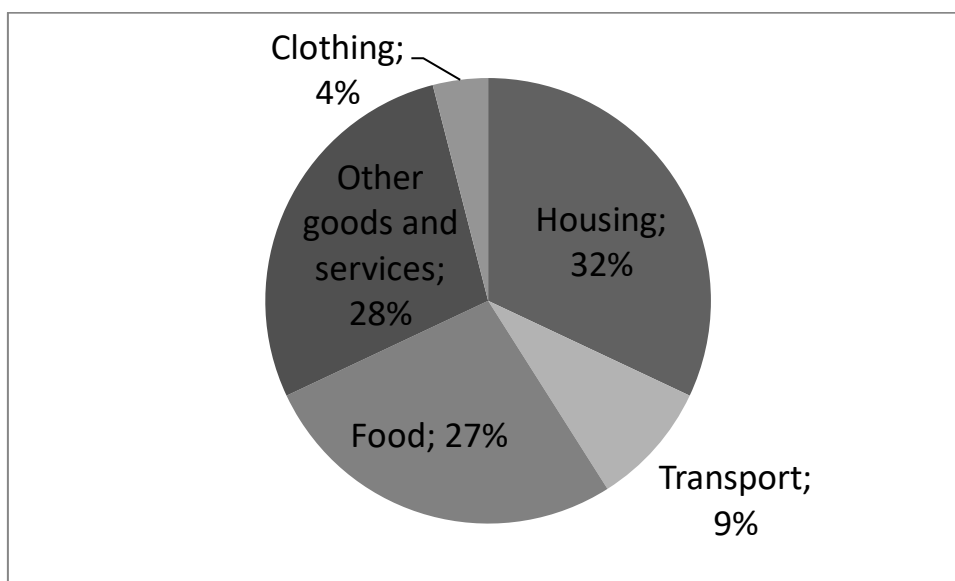
UNIT 7

E-Commerce

Household expenditure in Britain 20XX



Household expenditure in Hog Kong 20XX



The proportion of money spent on various household expenses in Hong Kong and Britain in 20XX has been analysed. The report that is presented below should be completed with the words from the box.

| | | | | |
|-----------|---------------|------------|-------------|------------|
| but | compared with | higher (2) | In contrast | main |
| indicates | lower | Overall | smallest | than while |

We can see that in Hong Kong the greatest proportion of expenditure (32%) was on housing, (1)_____ in Britain housing accounted for just 17% of the total.

(2)_____ in Britain the greatest single expense was other goods and services at 36%, (3)_____ 28% in Hong Kong. Food came in second place in Britain, at 22%, while in Hong Kong the actual proportion was (4)_____(27%). In Britain another major expense was transport, at 17%, but this was much (5)_____ in Hong Kong (9%). In both countries the (6)_____ percentage of expenditure was on clothing.

(7)_____, the data (8)_____ that in both cases food, housing and other goods and services were the (9)_____ expenses, (10)_____ that in Britain, transport and other goods and services took up a (11)_____ proportion of total expenditure (12)_____ in Hong Kong.

The pie charts below show average household expenditure in Hong Kong and Britain in the year 20XX. Write a report for a university lecturer describing the information below.

Exercise 1. Listen to the recording and draw a chart regarding the statistic data represented in it.

Exercise 2. Decide whether the following statements are true (T) or false (F) as for online services. If you think a statement is false, change it to make it true.

1. Most people choose an online service because of the price or the number of available files.
2. Everybody has one service which he/she likes more than all the others.
3. You should judge each service according to whether it is better or worse overall than the service you are currently using.
4. Eventually, all services will be accessible from the service you are using.

Exercise 3. Fill in the gaps with the words in brackets where the first and last letters are correct.

In my opinion, there is no single ‘best’ online service. The choice depends on your 1_____ (prltacuair) needs and preferences. Most users have their own 2_____ (ftrvaioue), but this can prevent them from seeing the 3_____ (agtvndaaes) of other services. Each one offers something which is either 4_____ (uqinue) to that service, or which is 5_____ (bteetr) than the same features on other services. So, when considering an online service, decide whether its features 6_____ (cosrernopd) to what you need. Until all services are 7_____ (iilktnearnd), most of us will need to 8_____ (cunoitne) using more than one.

Exercise 4. *Discuss the following questions:*

1. What online services are available in your country?
2. What kind of facilities do online services provide?
3. Do you think the English in the text above is formal/ neutral/ informal?
4. Do you think the text from the article originally appeared in:

A a computer magazine?

B a general magazine for young people?

C a general magazine for adults?

D an online bulletin board?

E the science page of a newspaper?

Give reasons for your choices.

WORD FORMATION

Lexical Exercise 1. *Sort out the words into 4 different categories: nouns (who? what?), adjectives (which? what kind of?), adverbs (how?) and verbs (what to do?).*

Intelligence, demand, alternative, amidst, self-awareness, propose, requirement, professionally, useful, supply, existential, relationship, successfully, emphasize, profession, academic, author, responsible.

Lexical Exercise 2. *Find synonyms for the following words:*

Statement, morally, organization/ firm, speaking, headline, grown-ups, neat/ fashionable/ intelligent, central, particular, according to.

Lexical Exercise 3. *Using words from Exercises 1 and 2, match the word endings.*

Analyse: what suffixes can be added to a word to change its meaning or its word class. Remember, there are words that do not have such endings/ suffixes.

E.g. Successfully = success + ful + ly

The ending FUL can be added to many nouns to form adjectives: hope – hopeful, grace – graceful.

The ending LY can be added to most adjectives to form adverbs: easy – easily, awful – awfully, radical – radically.

Lexical Exercise 4. *Complete the sentences with the correct form of the words in brackets.*

1. He learns new languages (EASY)
2. The weather was so bad that it was ... to continue our journey. (POSSIBLE)
3. Please don't forget the ... of the situation. (SERIOUS)

4. David wasn't expected to do well but ... he did very well. (SUCCEED)
5. The teacher spoke very ... about the problems that teenagers face. (CARE)
6. It's your birthday. Let's have a (CELEBRATE)
7. Traffic jams and noise pollution add to the ... of daily life. (STRESSFUL)
8. Please, don't be so ... ! I'll tell you when I know myself. (PATIENCE)
9. Even though he was only five, he was very good and waited ...for the bus.(PATIENCE)

Lexical Exercise 5. *There is the definite word order in English sentences. In the examples given below mark subjects and predicates. Translate the sentences. Remember that some verbs can have the same form as nouns.*

E.g. I water these flowers three times a week. Я поливаю ці квіти три рази на тиждень.

“I” is a subject; “water” is a predicate.

- a. Please, number the pictures.
- b. Dogs often tree cats.
- c. We can fish the lake.
- d. Cats mother tigers.
- e. The book names name and give street addresses.
- f. Wishes father thoughts.
- g. This hall houses 50, 000 people.
- h. On landing you'll see strange things.
- i. On the landing you'll see strange things.

Lexical Exercise 6. *Write what the following abbreviations mean.*

Dr., www, max, min, Mon., Sep., etc., e.g., i.e., NB, NBA, BBC, UNESCO, NY, UFO, IQ, AI, p.m., BC, AD, yr, km, F, °C, UK, BSc, CPU.

Final Test

I. *There are underlined words or phrases in each sentence. You are to choose the one word or phrase that best keeps the meaning of the original sentence if it is substituted for.*

1. Among the most influential theorists of intelligence to point out the distinction between intellectual and emotional capacities was Howard Gardner.

- (A) students (B) writers (C) celebrators (D) scientists

2. After a long lunch hour, business resumes as usual.

- (A) responds (B) delays (C) continues (D) resurfaces

3. Picasso was a well-known cubist painter.

(A) colorful (B) expressive (C) celebrated (D) knowledgeable

4. The professor tried to stimulate interest in archeology by taking his students on expeditions.

(A) simulate (B) encourage (C) fake (D) diminish

5. The Montforts have decided to take a cruise, so they went to the travel agency for some brochures.

(A) questions (B) inquisition (C) price list (D) pamphlets

6. Twenty-five percent of Ecuador's population speak Quechua exclusively.

(A) mainly (B) only (C) voluptuously (D) still

7. Plato's teachings had a profound effect on Aristotle.

(A) depth (B) affection (C) affliction (D) influence

II. Choose the word in the following sentences that fits best.

1. Decide which particular pathways *interesting/ interests/ interest* you the most, or seem to be the most effective.

2. The building *house/ houses/ housewife* the fifty-ton crane.

3. In Britain the *academy/ academic/ academic year* runs from October to July.

4. I'm not sure about your legal position in this matter: I think you should take *profession/ professorial/ professional*.

5. An *intelligent/ intellectual* person is someone with a quick and clever mind, but an *intelligent/ intellectual* person is someone who is well-educated and interested in subjects which need long periods of study. A small child, or even a dog, can be *intelligent/ intellectual* but cannot be called an *intelligent/ intellectual*.

III. Match the words given below with their definitions.

1. Skill a) the general course of a person's working life

2. Society b) process that is connected with recognizing and understanding things

3. Cognitive c) when two or more things are connected with or involve each other

4. Relationship d) the ability to do something well, as a result of experience and training

5. Career e) people in general living together in organized communities, with laws and traditions controlling the way they behave towards one another

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Шаркова Світлана Федорівна
Шаркова Наталія Федорівна

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