МІНІСТЕРСТВО ОСВІТИ І НАУКИ УКРАЇНИ

Національний технічний університет України  
«Київський політехнічний інститут

імені Ігоря Сікорського»

**Н. Є. Доронкіна, Л.В. Ломакіна**

**ПРАКТИКУМ АНГЛОМОВНОГО ПРОФЕСІЙНОГО СПРЯМУВАННЯ**

**ЗБІРНИК ТЕСТОВИХ ЗАВДАНЬ**

*Рекомендовано Методичною Радою КПІ ім. Ігоря Сікорського*

*як навчальний посібник для здобувачів ступеня магістра за освітніми програмами всіх спеціальностей факультету електроніки*

*153 «Мікро- та наносистемна техніка», 171 «Електроніка»,*

*172 «Телекомунікації та радіотехніка»*

Київ

КПІ ім. Ігоря Сікорського

2021

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**ПРАКТИКУМ АНГЛОМОВНОГО ПРОФЕСІЙНОГО СПРЯМУВАННЯ**

**ЗБІРНИК ТЕСТОВИХ ЗАВДАНЬ**

Практикум англомовного професійного спрямування: збірник тестових завдань[Електронний ресурс] : навч. посіб. для здобувачів ступеня магістра за освітніми програмами всіх спеціальностей факультету електроніки / Н. Е. Доронкіна, Л. В. Ломакіна ; КПІ ім. Ігоря Сікорського. – Електронні текстові дані (1 файл: 153 kбайт). – Київ : КПІ ім. Ігоря Сікорського, 2021. – 82 с.

АНОТАЦІЯ. Навчальний посібник рекомендовано для самостійної підготовки здобувачів ступеня магістра всіх спеціальностей факультету електроніки КПІ ім. Ігоря Сікорського до виконання залікової контрольної роботи з дисципліни «Практикум з іншомовного наукового спілкування». Основна мета видання - допомогти студентам підготуватися до написання залікової контрольної роботи з англійської мови, ознайомитися зі структурою роботи, критеріями оцінювання та вимогами до рівня володіння іноземної мовою на даному курсі. У навчальному посібнику наводяться приклади варіантів залікової контрольної роботи, що складається з семи завдань, серед яких завдання на аудіювання, на розуміння науково-технічних текстів, на знання термінології, граматики та завдання на переклад з англійської мови на українську і навпаки.

  Н. Е. Доронкіна, Л. В. Ломакіна, 2021

  КПІ ім. Ігоря Сікорського, 2021

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**Передмова**

Навчальний посібник для самостійної підготовки здобувачів ступеня магістра всіх спеціальностей факультету електроніки до виконання залікової контрольної роботи з дисципліни «Практикум з іншомовного наукового спілкування» розроблено відповідно до рекомендацій чинної навчальної програми, яка передбачає формування у студентів професійно орієнтованої комунікативної компетенції, необхідної для забезпечення їх ефективного спілкування в академічному та професійному середовищі.

Мета навчального посібника – допомогти студентам підготуватися до написання залікової контрольної роботи з англійської мови, ознайомитися зі структурою роботи, критеріями оцінювання та вимогами до рівня володіння іноземної мовою на даному курсі.

У навчальному посібнику висвітлюються вимоги до знань студентів з різних видів мовленнєвої діяльності у межах кредитного модуля, а також критерії оцінювання контрольної роботи залежно від типу завдання. Для студентів наводяться приклади варіантів залікової контрольної роботи, що складається з семи завдань, які студенти можуть використовувати у підготовці до виконання контрольної роботи.

Завдання залікових контрольних робіт складено на базі вивченого матеріалу відповідно до робочої навчальної програми кредитного модуля з урахуванням специфіки факультету та спеціальностей.

Навчальний посібник дозволить студентам організувати навчальну діяльність у режимі самостійної роботи, щоб краще закріпити свої знання з англійської мови та підготуватися до виконання залікової контрольної роботи.

При підготовці навчального посібника були використані автентичні тексти з електронних джерел та підручників.

**Структура та критерії оцінювання залікової контрольної роботи**

**Зразок листа відповіді**

*Структура залікової контрольної роботи з англійської мови*

Пакет завдань для підготовки до залікової контрольної роботи складається з п'яти варіантів. Кожен варіант містить сім завдань, серед яких завдання на аудіювання, на розуміння науково-технічних текстів, на знання термінології, граматики та завдання на переклад з англійської мови на українську і навпаки.

*Критерії оцінювання залікової контрольної роботи*

Контрольні роботи оцінюються за шкалою 100 балів.

Перше завдання спрямоване на розуміння прослуханого аудіо тексту, яке складається з аудіо файлу та 5 питань і оцінюється наступним чином:

5 речень × 2 бали = 10 балів.

Друге завдання на розуміння прочитаного тексту складається з тексту та 5 тверджень, достовірність яких по відношенню до тексту необхідно визначити, і оцінюється наступним чином:

5 речень × 3 бали = 15 балів.

Третє завдання також на розуміння прочитаного тексту складається з тексту та 5 питань і оцінюється наступним чином:

5 питань × 3 бали = 15 балів.

Четверте завдання на перевірку знань з професійно-орієнтованої лексики має 10 питань, за кожне студент отримує по 1 балу.

10 питань × 1 бали = 10 балів.

П’яте завдання на перевірку знань з граматики складається з 20 питань, кожне оцінюється в 1 бал.

20 питань × 1 бал = 20 балів.

Шосте завдання – переклад речень з англійської на української мову. За вірний переклад кожного речення студент отримує по 3 бали.

5 питань × 3 бали = 15 балів.

Сьоме завдання – переклад речень з української на англійську мову. Кожне речення оцінюється в 3 бали.

5 питань × 3 бали = 15 балів.

Сума балів переводиться до оцінки згідно з таблицею.

|  |  |
| --- | --- |
| Бали | Оцінка |
| 100 …90 | відмінно |
| 89 …75 | добре |
| 74 … 60 | задовільно |
| менш ніж 60 | незадовільно |

Залікова контрольна робота пишеться на окремих листах-відповідях.

Зразок листа-відповіді наведено нижче.

**Зразок листа відповіді**

**НАЦІОНАЛЬНИЙ ТЕХНІЧНИЙ УНІВЕРСИТЕТ УКРАЇНИ**

**“Київський політехнічний інститут імені Ігоря Сікорського”**

**ЗАЛІКОВА РОБОТА**

з навчальної дисципліни

«Практикум з іншомовного наукового спілкування»

(назва)

для студентів спеціальності (напряму) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(код)

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(назва)

Студент\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(прізвище, ім’я та по батькові)

**Факультет електроніки, \_\_\_\_\_\_\_\_ курс, група\_\_\_\_\_\_\_\_**

**Початок роботи \_\_\_\_\_ год. \_\_\_\_\_ хв.**

**Завершення роботи \_\_\_\_\_ год. \_\_\_\_\_ хв.**

**Варіант 1**

I. Listening Comprehension (10 points)

***Task 1. Listen to the text. Then read the unfinished statements and choose the correct answer to finish them.***

|  |  |
| --- | --- |
| 1. |  |
| 2. |  |
| 3. |  |
| 4. |  |
| 5. |  |

IІ. Reading Comprehension (30 points)

***Task 2. Read the following professionally oriented text and define if the sentences given below are true (T) or false (F). Indicate your answer with a letter T or F in your answer sheet paper.***

|  |  |
| --- | --- |
| 1. |  |
| 2. |  |
| 3. |  |
| 4. |  |
| 5. |  |

***Total \_\_\_\_ / 20***

***Task 3. Read the following professionally oriented text and choose the right answers to the questions given below. Indicate your answer with a letter a, b, or c in your answer sheet paper.***

|  |  |
| --- | --- |
| 1. |  |
| 2. |  |
| 3. |  |
| 4. |  |
| 5. |  |

***Total \_\_\_\_ / 20***

IIІ. English in Use: Vocabulary (10 points)

***Task 4. Read the text and choose the words that best fit the space. Indicate your answer with a letter a, b, or c in your answer sheet paper.***

|  |  |  |  |
| --- | --- | --- | --- |
| 1. |  | 6. |  |
| 2. |  | 7. |  |
| 3. |  | 8. |  |
| 4. |  | 9. |  |
| 5. |  | 10. |  |

***Total \_\_\_\_ / 10***

IV. English in Use: Grammar (20 points)

***Task 5. Read the sentences and choose the words that best fit the space. Indicate your answer with a letter a, b, or c in your answer sheet paper.***

|  |  |  |  |
| --- | --- | --- | --- |
| 1. |  | 11. |  |
| 2. |  | 12. |  |
| 3. |  | 13. |  |
| 4. |  | 14. |  |
| 5. |  | 15. |  |
| 6. |  | 16. |  |
| 7. |  | 17. |  |
| 8. |  | 18. |  |
| 9. |  | 19. |  |
| 10. |  | 20 |  |

***Total \_\_\_\_ / 20***

V. Translation Practice (30 points)

***Task 6. Choose the appropriate Ukrainian translation for the following English sentences. Indicate your answer with a letter a, b, or c in your answer sheet paper.***

|  |  |
| --- | --- |
| 1. |  |
| 2. |  |
| 3. |  |
| 4. |  |
| 5. |  |

***Total \_\_\_\_ / 15***

***Task 7. Choose the appropriate English translation for the following Ukrainian sentences. Indicate your answer with a letter a, b, or c in your answer sheet paper.***

|  |  |
| --- | --- |
| 1. |  |
| 2. |  |
| 3. |  |
| 4. |  |
| 5. |  |

***Total \_\_\_\_ / 15***

***Total \_\_\_\_ / 100***

**Вимоги до рівня володіння іноземною мовою з дисципліни «Практикум з іншомовного наукового спілкування»**

Дисципліна «Практикум з іншомовного наукового спілкування» відноситься до дисциплін базової підготовки. Предметом навчальної дисципліни є сукупність компонентів (мовних знань та мовних вмінь), необхідних для формування професійно орієнтованої комунікативної компетентності у студентів з метою забезпечення їх ефективного спілкування в академічному та професійному середовищі.

Навчальна програма дисципліни «Практикум з іншомовного наукового спілкування» передбачає:

‒ розуміння автентичних текстів, пов’язаних з навчанням та спеціальністю, з підручників, популярних та спеціалізованих журналів та Інтернет джерел;

‒ уміння швидко визначити зміст і доречність нових джерел, статей і звітів з метою пошуку інформації з широкого кола навчальних та професійних тем;

‒ бути здатним ефективно спілкуватися іноземною мовою в професійному середовищі;

‒ можливість ефективно і гнучко користуватись іноземною мовою у повсякденному житті, у навчальній та пов'язаною зі спеціалізацією сферах;

‒ чітко, логічно та детально висловлюватись на складні теми, демонструючи свідоме володіння граматичними структурами, конекторами та зв'язними висловлюваннями;

‒ знання правил англійського синтаксису та способів перекладу термінології, певних граматичних форм та конструкцій.

До складу дисципліни «Практикум з іншомовного наукового спілкування» входить кредитний модуль «Практикум з англомовного професійного спілкування» для здобувачів ступеня магістра. По завершенню модуля студенти повинні:

‒ розуміти автентичні тексти, пов’язані з навчанням та спеціальністю, з підручників, популярних та спеціалізованих журналів та Інтернет джерел; ‒ уміти швидко визначити зміст і доречність нових джерел, статей і звітів з метою пошуку інформації з широкого кола навчальних та професійних тем;

‒ розуміти головну ідею та знаходити необхідну інформацію в автентичній технічній літературі за фахом;

‒ бути здатним ефективно спілкуватися іноземною мовою в професійному середовищі;

‒ висловлюватись швидко і спонтанно без помітних утруднень, пов'язаних з пошуком засобів вираження думок та володіти мовленнєвим етикетом спілкування;

‒ писати зрозумілі, деталізовані тексти різного спрямування, пов'язані з академічною та професійною сферами;

‒ чітко, логічно та детально висловлюватись на складні теми, демонструючи свідоме володіння граматичними структурами, конекторами та зв'язними висловлюваннями.

‒ знати необхідний мінімум слів та типових словосполучень, вміти визначити та перекласти необхідне значення багатозначних слів, вміти перекладати терміни, складні за будовою речення, певні граматичні форми та конструкції.

Вище названі вміння реалізуються як цілісний механізм виконання комунікативних завдань в рамках реальних загально професійних ситуацій.

Завдання залікової контрольної роботи дозволяють перевірити різнобічні аспекти лінгвістичної компетенції, необхідні для успішного оволодіння іноземною мовою професійного спрямування для отримання ступеня магістра для всіх спеціальностей факультету електроніки.

**Залікова контрольна робота для здобувачів ступеня магістра всіх спеціальностей факультету електроніки**

**Варіант 1**

I. Listening Comprehension

***Task 1. Listen to the text “Modern Electronics”. Then read the unfinished statements and choose the correct answer to finish them.***

<https://drive.google.com/file/d/1DjJbINC1Xt1by7zsDtDP5emTM9-fqI8M/view?usp=sharing>

1. Electronics belongs to \_\_\_\_\_\_\_\_.

a. the 19th century

b. the 20th century

c. the 21st century

2. Electronics has made tremendous advancement during \_\_\_\_\_\_\_\_ .

a. last few years

b. last few centuries

c. last few decades

3. Bio nanotechnology is a new \_\_\_\_\_\_\_\_ that may product great breakthrough in medicine.

a. research

b. search

c. analyses

4. Electronic amplifier circuits are used to amplify \_\_\_\_\_\_\_\_.

a. rays

b. cells

c. signals

5. The raw materials used in the electronics industry must be of extremely \_\_\_\_\_\_\_\_.

a. high accuracy

b. high purity

c. high quality

II. Reading Comprehension

***Task 2. Read the following professionally oriented text and define if the sentences given below are true (T) or false (F). Indicate your answer with a letter T or F in your answer sheet paper.***

**Scientific Research**

Any scientist is a researcher who tests the hypothesis and verifies findings and evidence. A researcher is a general term for a person who may study a topic for a better understanding of the truth. Everyone is likely to understand the difference between such concepts as “applied research”, “basic research” and “development”. Research may be aimed at expanding a field of knowledge or improving the understanding of a natural phenomenon. This type of research is known as basic research.

The aim of applied research is to investigate technologies that could be used to create a new product or the next generation of an existing one. Basic research calls up an image of a scientist in a laboratory who studies phenomena purely for the purpose of expanding the knowledge base. Consequently, some refer to the activity as “pure” research. Two of the numerous other adjectives for basic research are curiosity-driven and investigation-oriented. Development exploits new technologies to design products that are practical, reliable, and manufacturable. Some pinpoint the difference between basic and applied research thus: getting one thing to work out of 100 versus finding the one thing out of 100 that does not work. Others say that basic research is getting one thing to work.

It is also argued that research and development efforts include the following four categories: development, advanced technology, exploratory research, and basic research. Development is closed to the production phase. Upstream of development is advanced technology, in which researchers work closely with the business units. Exploratory research investigates alternative technologies. It often goes on independently of business units. The fourth category, basic science, is the science disconnected from business. But research can be contemplated from yet another point, i.e. whoever is funding it and expects to benefit from it. Strategic research is the term widely used to label this perspective. Into this category fall several other expressions, such as long-term commercial research and goal-oriented research. In strategic research, the goal is defined first, and then the research efforts (both basic and applied) needed to achieve to the goal are laid out. Thus it has both basic and applied components.

*Taken from: http://www.oecd.org/science/inno/2674543.pdf*

1. Basic research means “pure” research.

2. The objective of basic research is to investigate technologies that could be used to create a new product.

3. Some people say that basic research is getting one thing to work.

4. Basic science is the science, which has no any connections with business.

5. Strategic research has both basic and applied components.

***Task 3. Read the following professionally oriented text and choose the right answers to the questions given below. Indicate your answer with a letter a, b, or c in your answer sheet paper.***

**Radio waves in outer space**

Radio waves serve as a most reliable means connecting the spaceship with the Earth. Since the time when the first rocket was sent into space, there is always a two-way communication channel between the Earth and space. The most valuable information is transmitted to the Earth from rockets and spaceships by radio waves.

The information from space comes to the Earth in a coded form and here it is decoded into the language clear to the specialists. Radio signals, which are sent to the Earth from space, are much weaker than those, which are emitted by radio stations on the Earth. That is why the ground-based receiving antennas should be very big. The greater the antenna are, the more reliable the reception.

Here on the Earth we not only hear the voices of our cosmonauts but can also see them thanks to the television transmitters, which are set up in the spaceship cabin. The cosmonauts use portable TV cameras to send telecasts from their space home and show the televiewers the Earth and the Moon. And in addition to two-way radio communication there is a two-way television channel from the Earth – to space and back.

Outer space is a gigantic natural laboratory. Here people can observe and study new phenomena, discover and then use their knowledge for the benefit of mankind. And here radio and TV are of great help.

*Taken from: https://science.nasa.gov/ems/05\_radiowaves*

1. What information is transmitted to the Earth?

a. the most valued information

b. the shortest information

c. the unimportant information

2. In what form does the information from the space come to the Earth?

a. in a decoded form

b. in coded form

c. in the form of words

3. How do cosmonauts communicate with the Earth?

a. by radio channels

b. by television only

c. by radio and television channel

4. Why should the ground-based receiving antennas be very big?

a. because radio signals are weak

b. because radio signals from space are very strong

c. Because radio information from space should be decoded

5. What is outer space for mankind?

a. a gigantic observatory

b. a gigantic natural laboratory

c. a gigantic source of energy

III. English in Use: Vocabulary

***Task 4. Read the text and choose the words that best fit the space. Indicate your answer with a letter a, b, or c in your answer sheet paper.***

**Wireless future**

A team of US researchers has come 1) \_\_\_\_\_ with an electricity system that does not need wires. This is a breakthrough in what will hopefully be a wireless future. Although Wi-Fi has been around for 2) \_\_\_\_\_ years now, it has been limited to the 3) \_\_\_\_\_ of information, especially between 4) \_\_\_\_\_ and modems, printers and scanners. This is the first time electrical appliances have been powered 5) \_\_\_\_\_.

This new development means that our houses may be 6) \_\_\_\_\_ from tangled wires. The new source of delivering power to gadgets remotely may also reduce the number of fires causes by 7) \_\_\_\_\_ wiring and overloaded sockets. It runs out the concept is not so new. A century ago, inventor Nikola Tesla struck 8) \_\_\_\_\_ the idea of building a huge tower in New York that would wirelessly beam power to the city. Unfortunately, his idea never came to 9) \_\_\_\_\_, until today. It will still be a while before we have wireless homes and offices. Safety experts will be checking closely to 10) \_\_\_\_\_ the power source causes us no harm.

*Taken from: https://www.hfmmagazine.com/articles/3946-the-future-of-wireless-connectivity*

|  |  |  |  |
| --- | --- | --- | --- |
| 1 | a. down | b. up | c. over |
| 2 | a. few | b. some | c. any |
| 3 | a. proliferation | b. expansion | c. transmission |
| 4 | a. computers | b. monitors | c. wires |
| 5 | a. wirelessly | b. wireless | c. wired |
| 6 | a. free | b. empty | c. easy |
| 7 | a. fat | b. broken | c. poor |
| 8 | a. upon | b. in | c. at |
| 9 | a. fruity | b. fruition | c. fruitiness |
| 10 | a. reassure | b. censure | c. ensure |

IV. English in Use: Grammar

***Task 5. Read the sentences and choose the words that best fit the space. Indicate your answer with a letter a, b, or c in your answer sheet paper.***

1. Although instances of scientific progress \_\_\_\_\_\_\_\_ over many centuries, the terms “science” and “scientist” were coined in the 19th century.

a. have been documented

b. had been documented

c. were documented

2. Had we worked longer yesterday the work \_\_\_\_\_\_\_\_ ready.

a. would have been

b. would be

c. had been

3. The new transistor allows us \_\_\_\_\_\_\_\_ less power.

a. consume

b. consuming

c. to consume

4. Any type of tissue can be grown without any prior organ \_\_\_\_\_\_\_\_\_\_.

a. placed

b. being placed

c. having placed

5. \_\_\_\_\_\_\_\_\_ single crystals of silicon and “doped” them with tiny impurities to make solid-state diodes; Teal published his results in journal in 1951.

a. to grow

b. having grown

c. grown

6. You all can rely on my \_\_\_\_\_\_\_\_\_\_English.

a. know

b. knowing

c. having knowing

7. The basic circuit of this electronic device \_\_\_\_\_\_\_\_\_\_\_\_ is described in detail in this article

a. building

b. to build

c. being built

8. If students \_\_\_\_\_\_\_\_necessary knowledge they will not be in demand as specialists.

a. won’t grasp

b. don’t grasp

c. wouldn’t grasp

9. Special implants \_\_\_\_\_\_\_\_\_\_ physically challenged people have been created.

a. helped

b. being helped

c. helping

10. The experiment would be successful provided we \_\_\_\_\_\_\_\_\_\_ all necessary equipment.

a. had

b. would have

c. were having

11. Unless we thought new research \_\_\_\_\_\_\_\_\_\_ necessary, we wouldn’t be spending money on it.

a. are

b. have been

c. were

12. The problem seems \_\_\_\_\_\_\_\_\_\_ very complicated.

a. to be

b. be

c. is

13. \_\_\_\_\_\_\_\_\_\_ computers work fast and correctly is very significant task.

a. Made

b. To make

c. Making

14. The workshop \_\_\_\_\_\_\_\_\_\_ to be highly interdisciplinary.

a. is intended

b. intended

c. intends

15. It allows users \_\_\_\_\_\_\_\_\_\_ and manipulate virtual objects.

a. touch

b. to touch

c. touching

16. As science becomes more and more computational, we need \_\_\_\_\_\_\_\_\_\_ a better understanding of the nature of human activity in the information age.

a. come up with

b. coming up with

c. to come up with

17. It penetrates more deeply into water than \_\_\_\_\_\_\_\_\_\_ into soil.

a. does it

b. it does

c. does

18. The results obtained \_\_\_\_\_\_\_\_\_\_ to be satisfactory.

a. are considering

b. consider

c. are considered

19. \_\_\_\_\_\_\_\_\_\_ the temperature increased, the velocity of the molecular motion would be increased.

a. is

b. were

c. are

20. The number of publications per year \_\_\_\_\_\_\_\_\_\_ reported in Table 3.

a. is

b. are

c. were

V. Translation Practice

***Task 6. Choose the appropriate Ukrainian translation for the following English sentences. Indicate your answer with a letter a, b, or c in your answer sheet paper.***

1. These circuits are likely to perform logic operations.

a. Цим схемам до вподоби виконання логічних операцій.

b. Ці схеми схожі на виконання логічних операцій.

c. Імовірно ці схеми виконують логічні операції.

2. The current being controlled by the transistor, the transistor can act as an amplifier.

a. Струм, що контролює транзистор, працює як підсилювач.

b. Коли струм контролюється транзистором, транзистор працює як підсилювач.

c. Контролювання струму транзистором перетворює його на підсилювач.

3. To build the best possible bipolar device, the IBM researchers made a compromise.

a. Щоб збудувати найкращий біполярний пристрій, дослідники з «IBM» змусили піти на компроміс.

b. Збудувати найкращий біполярний пристрій дослідники з «IBM» змогли завдяки компромісу.

c. Щоб збудувати найкращий біполярний пристрій, дослідники з «IBM» пішли на компроміс.

4. In the case of the field-effect transistor (FET) it is the input voltage, which controls the output current.

a. У випадку з польовим транзистором це напруга на вході контролює вихідний струм.

b. У випадку з польовим транзистором саме напруга на вході контролює вихідний струм.

c. У випадку з польовим транзистором є напруга на вході, що контролює вихідний струм.

5. A reverse biased p-n junction behaves like a capacitor.

a. П-Н перехід зі зворотнім зміщенням поводить себе як конденсатор.

b. Зворотній П-Н перехід виглядає як конденсатор.

c. Поведінка зворотного П-Н переходу схожа на конденсатор.

***Task 7. Choose the appropriate English translation for the following Ukrainian sentences. Indicate your answer with a letter a, b, or c in your answer sheet paper.***

1. Якщо б арсенід галію був дешевшим напівпровідником, він би використовувався замість кремнію.

a. If gallium arsenide were a cheaper semiconductor, it was used instead of silicon.

b. If gallium arsenide were a cheaper semiconductor, it would be used instead of silicon.

c. If gallium arsenide were a cheaper semiconductor, it would have used instead of silicon.

2. Вважається, що такий діод має зворотне зміщення.

a. Such diode is said to reverse bias.

b. Such diode is said to be reverse- biased.

c. Such diode said to be reverse- biased.

3. В залежності від електричного кола, результатом буде підсилювання струму або напруги.

a. Depending on the electric circuit, the result will be current or voltage amplification.

b. Depending from the electric circuit, the result will be current or voltage amplification.

c. Depending on the electric current, the result will be circuit or voltage amplification.

4. Проаналізувавши дані, що були отримані, ми завершили експеримент.

a. Having analyzing the obtained data we finished the experiment.

b. Having analyzed the data obtained we finished the experiment.

c. Having been analyzed the data obtained we finished the experiment.

5. Щоб зрозуміти як працює транзистор, розгляньте роботу діода.

a. For understand how transistor works, consider the work of diode.

b. To understand how transistor works, consider the work of diode.

c. To understanding how transistor works, consider the work of diode.

**Варіант 2**

I. Listening Comprehension

***Task 1. Listen to the text “Nanotechnology”. Then read the unfinished statements and choose the correct answer to finish them.***

<https://drive.google.com/file/d/1LrajVlwPGZzBg-1OhFKG2WeaCDfUBAc6/view?usp=sharing>

1. Nanotechnology is revolutionizing many industry sectors: information technology, medicine, transportation, energy, food safety, and environmental \_\_\_\_\_\_\_\_.

a. knowledge

b. science

c. theory

2. Ultra-high definition display and televisions are now being \_\_\_\_\_\_\_\_.

a. more sufficient

b. more proficient

c. more efficient

3. Light weighting of many vehicles could lead to significant \_\_\_\_\_\_\_\_ savings.

a. fuel

b. power

c. energy

4. The combination of light weight and \_\_\_\_\_\_\_\_ makes them ideal for many applications.

a. productivity

b. conductivity

c. non-conductivity

5. Researchers are developing wires containing carbon nanotubes that will have much lower \_\_\_\_\_\_\_\_ than the high-tension wires currently used in electric grid.

a. capacitance

b. reflectance

c. resistance

II. Reading Comprehension

***Task 2. Read the following professionally oriented text and define if the sentences given below are true (T) or false (F). Indicate your answer with a letter T or F in your answer sheet paper.***

**Science in Medicine**

Electromagnetic waves such as light and X rays can propagate in a vacuum, but the propagation of ultrasound is linked to matter. The waves can propagate in solids, liquids, and to a limited extent in gases.

When ultrasonic waves are introduced into the human body, the particles in the tissue perform longitudinal oscillations about their points of rest. The propagation is characterized by periodic compression and decompression in the direction of propagation. Wavelength is defined as the least separation between two identical excitation states, e.g., the maximum pressure peaks in a wave. In a dispersion-free medium such as human tissue wavelength is related to velocity and frequency. The sound propagation speed is dependent on the compressibility of the medium and its density at constant temperature. There are various interactions between ultrasonic waves and matter, to which the laws of optics usually apply.

Ultrasonic imaging is based on the principles of reflection and transmission. When the wave reaches a boundary surface between two media differing in acoustic properties, part of the incident energy is transmitted, while the rest is reflected. At boundaries between different types of tissue, the wave amplitudes in the incident beam are controlled by the tissue-specific wave impedance. In physics, the acoustic-wave impedance is known as acoustic impedance. This is the product of the speed of sound and the density of the material. Acoustic impedance is a material constant and is independent of frequency. Given the intensity of the incident wave perpendicular to the surface and the impedances of the two media, the reflected and transmitted intensities can be calculated. As angular terms are lacking, these two equations apply only for perpendicular incidence of sound waves on an acoustic boundary.

*Taken from: https://www.axolbio.com/blog/guest-post-the-importance-of-basic-research-in-medicine*

* + 1. Ultrasonic waves introduced into the human body causes transverse oscillations of the particles in the tissue.
    2. The propagation is characterized by continuous compression in the direction of propagation.
    3. Human tissue is a dispersion-free medium.
    4. Ultrasonic imaging is based on the principles of absorption.
    5. Acoustic impedance is dependent on the speed of sound.

***Task 3. Read the following professionally oriented text and choose the right answers to the questions given below. Indicate your answer with a letter a, b, or c in your answer sheet paper.***

**Computer Security**

Computer hardware is typically protected by the same means used to protect other valuable or sensitive equipment, namely, serial numbers, doors and locks, and alarms. The protection of information and system access, on the other hand, is achieved through other tactics, some of them quite complex. The protection of information and system access is connected with hackers.

Nowadays the term "hacker" is used for different things in computing. Depending on the context it could refer to a person in one of several communities and subcultures. However, it is mostly referred to computer criminals, noted by the experts during the history, due to the mass media usage of the word since the 1980s and the continuous incompetence to these days. This usage has become so predominant that the general public is unaware that different meanings exist. Firstly, to hack means to search for something by examining other people’s business, for example “password hacker”, “network hacker”. It is pretty harmless as long as the hacker avoids the temptation to cross the line and taking action about other people’s private life. Secondly, hackers belong to a community of enthusiast computer programmers and systems designers, originated in the 1960s around the Massachusetts Institute of Technology. This community is famous for launching the free software movement. The World Wide Web and the Internet itself are also hacker artifacts. Thirdly, hacker is one who programs enthusiastically and enjoys exploring the details of programmable systems. There was the hobbyist home computing community, focusing on hardware in the late 1970s and on software in the 1980s/1990s. In computer security, a hacker is someone who focuses on security mechanisms of computer and network systems. While including those who want to strengthen such mechanisms, it is more often used by the mass media and popular culture to refer to those who seek access despite these security measures. White hat is the name given to ethical computer hackers, who utilize hacking in a helpful way.

*Taken from:* [*https://www.edureka.co/blog/what-is-computer-security/#:~:text=Computer%20security%20 basically*](https://www.edureka.co/blog/what-is-computer-security/#:~:text=Computer%20security%20 basically)*%20is%20the,use%20of%20your%20computer%20system.*

1. What is the most famous meaning of the term "hacker"?

a. the enthusiast of computer programming

b. the system designer

c. the criminal

2. What is the Massachusetts Institute of Technology known for?

a. a lot of computer crimes

b. the introduction of the free software movement

c. often intervention into people’s private life

3. When was the hobbyist home computing community focused on hardware?

a. in the late 1970s

b. in the late 1980s

c. in the late 1990s

4. Which of the purposes is peculiar to hackers interested in security mechanisms?

a. computer viruses writing

b. security problems solution

c. computer games creation

5. How is a helpful hacker called nowadays?

a. a yellow shoe

b. a white hat

c. a black bag

III. English in Use: Vocabulary

***Task 4. Read the text and choose the words that best fit the space. Indicate your answer with a letter a, b, or c in your answer sheet paper.***

**Modern computer-generated artwork**

Computer-generated art is art created with a computer. The term is usually applied to works created entirely with the computer. It is a subject of digital art.

Researchers in America and England have developed 1) \_\_\_\_\_\_ that scans the 2) \_\_\_\_\_ on people’s faces and then produces a piece of computer-generated artwork. The technology is still very new. It analyses eight basic expressions, including the 3) \_\_\_\_\_ and shape of the mouth, the openness of eyes and the angle of the eyes. This information is 4) \_\_\_\_\_ up by a web cam, which uses data from the person’s face to guess how the viewer is feeling. The program automatically chooses colors and type of brush strokes each time the person’s expression changes and paints a new picture of his or her (5) \_\_\_\_\_. The project is part of 6) \_\_\_\_\_ research to develop different artwork tools for use in the computer graphics industry. It may also have uses in other 7) \_\_\_\_\_. Analysts could use the software to find out more about the psychological 8) \_\_\_\_\_ of patients. A trained doctor could look at the images and then give a patient 9) \_\_\_\_\_ on how to lead a happier life or be more confident. The program may also provide a little more color to our 10) \_\_\_\_\_ everyday lives – by placing uplifting artwork in front of us wherever we go.

*Taken from:* [*https://www.pnas.org/content/116/11/4760*](https://www.pnas.org/content/116/11/4760)

|  |  |  |  |
| --- | --- | --- | --- |
| 1 | a. software | b. implementation | c. provision |
| 2 | a. texts | b. feelings | c. background |
| 3 | a. corner | b. lips | c. position |
| 4 | a. picked | b. painted | c. written |
| 5 | a. size | b. health | c. mood |
| 6 | a. ongoing | b. brief | c. short |
| 7 | a. cities | b. fields | c. countries |
| 8 | a. state | b. stuff | c. view |
| 9 | a. word | b. thought | c. advice |
| 10 | a. dreary | b. fast | c. happy |

IV. English in Use: Grammar

***Task 5. Read the sentences and choose the words that best fit the space. Indicate your answer with a letter a, b, or c in your answer sheet paper.***

1. Graduate students \_\_\_\_\_\_\_ on research projects for a professor may see research as collecting or analyzing data related to their project.

a. works

b. are worked

c. working

2. I thank you for \_\_\_\_\_\_\_ my paper.

a. reviewed

b. review

c. reviewing

3. We succeeded in \_\_\_\_\_\_\_ reliable and accurate results.

a. obtained

b. obtaining

c. to obtain

4. A true scientist is interested in \_\_\_\_\_\_\_ mistakes.

a. told about his or her

b. being told

c. being told about his or her

5. This psychological phenomenon \_\_\_\_\_\_\_ by physical activity.

a. is affected

b. are affected

c. affect

6. The purpose was to select and fund research \_\_\_\_\_\_\_ by various laboratories around the country.

a. to conduct

b. to be conducted

c. conduct

7. Choose the phrase that best keeps the meaning of the original sentence if \_\_\_\_\_\_\_ for it.

a. it is substituted

b. is it substituted

c. is substituted

8. It is rather \_\_\_\_\_\_\_ problem.

a. difficult

b. the difficult

c. a difficult

9. If I \_\_\_\_\_\_\_ you I should do this task.

a. was

b. were

c. am

10. The student said that he \_\_\_\_\_\_\_ since 8 o'clock.

a. had been working

b. has been working

c. worked

11. Fifty per sent \_\_\_\_\_\_\_\_\_\_ certainly a good rate.

a. is

b. are

c. were

12. When I work as an engineer, I used to \_\_\_\_\_\_\_\_\_\_ early.

a. getting up

b. get up

c. got up

13. The scientist became \_\_\_\_\_\_\_\_\_\_ in the project.

a. the most

b. most

c. more and more

14. The researcher \_\_\_\_\_\_\_\_\_\_ staying away from home.

a. is used to

b. used to

c. didn’t use to

15. The application of this device \_\_\_\_\_\_\_\_\_\_ to give better results.

a. certain

b. is certain

c. will certain

16. \_\_\_\_\_\_\_\_\_\_ number of books in his collection is almost five thousand.

a. An

b. The

c. A

17. Had they known about this new discovery earlier, they would \_\_\_\_\_\_\_\_\_\_ the method in their investigation.

a. have applied

b. had applied

c. apply

18. \_\_\_\_\_\_\_\_\_\_ 40 years ago the book is still in great demand.

a. Have been written

b. Having been written

c. Has been written

19. A variety of articles \_\_\_\_\_\_\_\_\_\_ investigated this business sector.

a. have

b. has

c. having

20. \_\_\_\_\_\_\_\_\_\_ doctoral students, but also their research advisor is attending the conference.

a. Only not

b. Not only

c. Don’t only

V. Translation Practice

***Task 6. Choose the appropriate Ukrainian translation for the following English sentences. Indicate your answer with a letter a, b, or c in your answer sheet paper.***

1. He did it on purpose.

a. Він зробив це маючи певну ціль.

b. Він зробив це навмисне.

c. Він зробив це без причини.

2. The teacher asked where I had bought this textbook.

a. Учитель запитав, де я купив цей підручник.

b. Учитель запитав, чи я купив цей підручник.

c. Учитель запитав, де я куплю цей підручник.

3. This new theory is much spoken and written about.

а. Цю нову теорію детально обговорили та описали.

b. Про цю нову теорію багато говоритимуть та писатимуть.

c. Про цю нову теорію багато говорять та пишуть.

4. It was rumored that he was offered financial support.

а. Ходили чутки, що він запропонував фінансову підтримку.

b. Ходили чутки, що йому запропонували фінансову підтримку.

c. Ходили чутки, що він запропонує фінансову підтримку.

5. It was not until 1895 that Popov invented radio.

a. І лише у 1895 р. Попов винайшов радіо.

b. До 1895 р. Попов винайшов радіо.

с. У 1895 р. Попов винайшов радіо.

***Task 7. Choose the appropriate English translation for the following Ukrainian sentences. Indicate your answer with a letter a, b, or c in your answer sheet paper.***

1. У них є багато зарубіжних конкурентів.

a. They have a lot of foreign competitors.

b. They have a lot of foreign competitions.

c. They have a lot of foreign competitive people.

2. Професійна освіта допоможе вам пристосуватися до нових умов.

a. Vocational education will help you to exist to new industrial context.

b. Profession education will help you to adjust to new industrial context.

c. Vocational education will help you to adjust to new industrial context.

3. Які показники результативності науково-дослідної роботи?

a. What are the output indicators of B&D?

b. What are the output indicators of R&D?

c. What are the output indicators of P&D?

4. Внески у науку дають велику соціальну віддачу.

a. Investments in science generate high rates of social return.

b. Investments in science generates high rates of social return.

c. Investments in science is generating high rates of social return.

5. Сподіваюся, вам спаде на думку кращий план.

a. I hope you can cope up at a better plan.

b. I hope you can cope up with a better plan.

c. I hope you can cope up of a better plan.

**Варіант 3**

I. Listening Comprehension

***Task 1. Listen to the text “Power Electronics”. Then read the unfinished statements and choose the correct answer to finish them.***

<https://drive.google.com/file/d/1OdqcxEeJEqdABZTTY9bTtgPduO8wv_12/view?usp=sharing>

1. Power electronics is the application of \_\_\_\_\_\_\_\_ electronics foe the control and conversion of electric power.

a. hard-state

b. solid-state

c. huge-state

2. Power electronics allow \_\_\_\_\_\_\_\_ to be used by converting the Direct Current into AC.

a. solar energy

b. battery energy

c. wind energy

3. The use of power technology can decrease costs for the manufacture and the \_\_\_\_\_\_\_\_.

a. supplier

b. consumer

c. provider

4. Due to power electronics electric motors \_\_\_\_\_\_\_\_ less power.

a. take

b. get

c. consume

5. Advances in power electronics allow power to be delivered in a more dependable and \_\_\_\_\_\_\_\_ manner.

a. less costly

b. less heavy

c. less effectively

II. Reading Comprehension

***Task 2. Read the following professionally oriented text and define if the sentences given below are true (T) or false (F). Indicate your answer with a letter T or F in your answer sheet paper.***

**Science in Architecture**

We can think of science in Architecture as technology, which is the result of scientific research and discovery. Most of the building technology comes from our understanding of mostly physics, some chemistry and biology. The discourse of Architecture tends to focus more on art than science. Art deals with creation, science deals with knowing, and we need to know before we can create.

A whispering gallery is usually a circular, hemispherical, elliptical or ellipsoidal enclosure in which whispers can be heard clearly in other parts of the gallery. Such gallery is most simply constructed in the form of a circular wall, and allows whispered communication from any part of the internal side of the circumference to any other part. The sound is carried by waves, known as whispering-gallery waves travelling around the circumference. The effect that was discovered in the whispering gallery of St Paul's Cathedral in London and explained by Lord Rayleigh who revised a previous misconception that whispers could be heard across the top but not at any intermediate position. The extent to which the sound travels at St Paul's can also be judged by striking in the gallery, which produces four echoes.

Then he developed wave theories for St Paul’s by fitting sound waves inside a cavity. It involves the physics of resonance based on wave interference; the sound can exist only at certain notes as in the case of organ pipes. Other historical examples are the Gol Gumbaz mausoleum in Bijapur and the Echo Wall of the Temple of Heaven in Beijing. Whispering-gallery waves have also been demonstrated for other electromagnetic waves such as radio waves, microwaves, terahertz radiation, infrared radiation, ultraviolet waves and x-rays.

*Taken from: https://www.rockwool.com/blog/fundamentals-of-architectural-acoustics/*

1. Being at any point inside the gallery you can hear another person at any other point
2. The effect of echo is based on refraction.
3. The effect of whispering gallery can exist for x-rays.
4. Lord Rayleigh confirmed that whispers could be heard across the top of the gallery but not at any intermediate position.
5. The phenomenon of resonance takes place due to wave interference.

***Task 3. Read the following professionally oriented text and choose the right answers to the questions given below. Indicate your answer with a letter a, b, or c in your answer sheet paper.***

**Internet Collaboration**

Collaboration technologies that enable users to place calls via an application over the Internet is encompassed by the term “Web conferencing”. It takes place through software downloaded locally to a computer or device, or in an on-premises environment.

Web conferencing hosted on a web server controlled by the vendor. Offerings vary per vendor but most hosted services provide a cost per user per minute model. The technologies are not standardized, which has been a significant factor in the lack of interoperability, platform dependence, security issues, and cost and market segmentation.

Web conferencing is available with three models: hosting service, software and appliance.

An appliance, unlike the online-hosted solution, is offered as hardware. It is also known as "in-house" web conferencing. It is used to conduct live meetings, remote training, or presentations via the Internet.

Real-time text chat facilities appeared in the late 1980s. Web-based chat and instant messaging software appeared in the mid-1990s. In the late 1990s, the first true web conferencing capability became available. Web conferencing started with Plato, a small standalone system that supports a single class of terminals connected to a central computer.

Eric R. Korb registered a trademark for the term “webinar” in 1998. It means a portmanteau of web and seminar, meaning a presentation, lecture, or workshop that is transmitted over the Web. Some argue that webinars might be one-way from the speaker to the audience with limited audience interaction; so one-way broadcasts are perhaps more accurately called webcasts. Webinars themselves may be more collaborative and include question and answer sessions to allow full participation between the audience and the presenter. “Web conferencing” has reached the stage where it is viewed as necessity.

*Taken from:* [*https://www.3cx.com/pbx/web-conferencing/#:~:text=Web%20Conferencing%20is%20an%20*](https://www.3cx.com/pbx/web-conferencing/#:~:text=Web%20Conferencing%20is%20an%20) *online, microphone%20through%20a%20VoIP%20connection.*

1. What are web conferencing servers directed by?

a. the conference organizers

b. the system administrator

c. the vendor

2. Why is the security of web conferencing known to be insufficient?

a. because of hackers’ attacks

b. because conferencing technologies are not standardized

c. because of insufficient financing

3. What is "in-house" web conferencing used for?

a. remote training

b. privacy policy

c. increasing the number of participants

4. When did the real time chat become possible?

a. in the late 1980s

b. in the late 1990s

c. in the late 1970s

5. What is the feature of the Plato?

a. one type of terminal connected to a central computer

b. several types of terminal connected to a central computer

c. one type of terminal connected to several central computers

III. English in Use: Vocabulary

***Task 4. Read the text and choose the words that best fit the space. Indicate your answer with a letter a, b, or c in your answer sheet paper.***

**Mobile Multimedia Service**

The usage of 1) \_\_\_\_\_ network is becoming increasingly popular and more diversified. Mobile phones are extremely common today. Who knows, in the future we might be carrying a hand held device that displays the 2) \_\_\_\_\_ of newspapers and magazines. All these new inventions would require the existing cellular network to be improved. One of the most important 3) \_\_\_\_\_ is to create a single global standard for cellular network to 4) \_\_\_\_\_ all forms of information. This would 5) \_\_\_\_\_ information to be transmitted throughout the world and eventually make the world smaller and more united.

Cellular mobile telecommunications and the World Wide Web are growing at an exciting 6) \_\_\_\_\_. The users will demand the combination of mobility and multimedia services in a foreseeable 7) \_\_\_\_\_. Multimedia content increases and differentiates with changing information society and even richer variety of audio, 8) \_\_\_\_\_, and text-based information will be required in the future.

In order to understand the role of the next generation wireless services in the broader technology landscape, it is important to understand the current state of the Internet industry and other enabling technologies that shape its development.

The Internet is transitioning 9) \_\_\_\_\_ an inexpensive medium for advertising, marketing, and customer 10) \_\_\_\_\_ to a common platform for transactions and business applications. However, in the year 2025 mobile multimedia traffic will far exceed speech.

*Taken from:* <https://www.finextra.com/blogposting/14000/mobile-technology-its-importance-present-and-future-trends>

|  |  |  |  |
| --- | --- | --- | --- |
| 1 | a. cell | b. cellular | c. element |
| 2 | a. furniture | b. contents | c. data |
| 3 | a. alternations | b. corrections | c. improvements |
| 4 | a. transmit | b. assign | c. report |
| 5 | a. make | b. let | c. allow |
| 6 | a. crawl | b. pace | c. hop |
| 7 | a. timeframe | b. season | c. day |
| 8 | a. invisible | b. visual | c. blind |
| 9 | c. in | c. on | c. from |
| 10 | c. operate | c. support | c. work |

IV. English in Use: Grammar

***Task 5. Read the sentences and choose the words that best fit the space. Indicate your answer with a letter a, b, or c in your answer sheet paper.***

1. An interpretive paper requires you to use knowledge that you \_\_\_\_\_\_\_ from a particular case study.

a. gained

b. have gained

c. were gained

2. This substance is highly explosive if \_\_\_\_\_\_\_ to an open flame.

a. exposed

b. it exposed

c. exposing

3. After \_\_\_\_\_\_\_ the problem, they decided to solve it.

a. discussion

b. being discussed

c. discussing

4. He is the author of seven books that \_\_\_\_\_\_\_ in twenty languages.

a. translated

b. have been translated

c. translates

5. The new versions \_\_\_\_\_\_\_ in the archives as backups.

a. are stored

b. stored

c. storing

6. Some \_\_\_\_\_\_\_ it is better to choose a different approach.

a. say

b. says

c. saying

7. The standard is expected \_\_\_\_\_\_\_ .

a. be ratified

b. to ratify

c. to be ratified

8. Online education \_\_\_\_\_\_\_ recent attention in both academic and educational settings.

a. has gained

b. gained

c. gains

9. They suggested that we \_\_\_\_\_\_\_ theoretical approaches rather than applied.

a. discussed

b. discuss

c. were discussing

10. She will go to the university when she \_\_\_\_\_\_\_ her paper.

a. will finish

b. finished

c. finishes.

11. Course 1 is much \_\_\_\_\_\_\_ than Course 2.

a. longer

b. long

c. longest

12. Each resistor \_\_\_\_\_\_\_ with colors to indicate its value.

a. has marked

b. is marked

c. has been marked

13. Cells \_\_\_\_\_\_\_ to change chemical energy into electricity.

a. known

b. is know

c. are known

14. The power \_\_\_\_\_\_\_ electronic circuit is normally provided by AC mains power supply.

a. driving

b. to drive

c. have driven

15. You \_\_\_\_\_\_\_ put the microphone too close to the drums.

a. can’t

b. can

c. shouldn’t

16. This problem \_\_\_\_\_\_\_\_\_\_ of a couple of years ago.

a. was not even thought

b. is not even thought

c. has not even thought

17. Now much effort is \_\_\_\_\_\_\_\_\_\_ given to find the most efficient means of generating electricity.

a. be

b. been

c. being

18. If someone \_\_\_\_\_\_\_\_\_ to make a presentation or lead a discussion, they can come prepared to do so.

a. is expected

b. expects

c. expected

19. Many a students \_\_\_\_\_\_\_\_\_\_ hard for the examination.

a. work

b. works

c. are working

20. The majority of articles \_\_\_\_\_\_\_\_\_\_ marginal issues.

a. cover

b. covers

c. is covering

V. Translation Practice

***Task 6. Choose the appropriate Ukrainian translation for the following English sentences. Indicate your answer with a letter a, b, or c in your answer sheet paper.***

1. I am afraid lest she should fall ill.

a. Боюсь, щоб вона не захворіла.

b. Я боюсь, що вона захворіла.

c. Боюсь, що вона захворіє.

2. These facts are worth remembering.

a. Ці факти не варто згадувати.

b. Ці факти необхідно пам'ятати.

c. Ці факти варто згадати.

3. Even if I had had a dictionary, I wouldn't have used it.

а. Навіть якщо б у мене був словник, я б скористався ним.

b. Навіть якщо б у мене був словник, я б не скористався ним.

c. Навіть якщо у мене буде словник, я не скористаюсь ним.

4. Candidates should be prepared to answer questions.

а. Кандидати повинні бути готові дати відповіді на запитання.

b. Кандидати підготувались до відповідей на запитання.

c. Кандидати будуть готові дати відповіді на запитання.

5. Unfortunately, this idea failed to catch on.

a. На жаль, ця ідея набула популярності.

b. На жаль, ця ідея не набула популярності.

с. На жаль, ця ідея популярна.

***Task 7. Choose the appropriate English translation for the following Ukrainian sentences. Indicate your answer with a letter a, b, or c in your answer sheet paper.***

1. Університет був заснований 100 років тому.

a. The university was found 100 years ago.

b. The university was founded 100 years ago.

c. The university was discovered 100 years ago.

2. Сподіваюся, вам спаде на думку кращий план.

a. I hope you can come up with a better plan.

b. I hope you can fall in better plan.

c. I hope you can meet a better plan.

3. Він зробив це навмисне.

a. He did it in purpose.

b. He did it on purpose.

c. He did it for purpose.

4. Про це питання не йдеться.

a. This is not a point in question.

b. This question is not gone about.

c. This question is not coming up.

5. На жаль, ця ідея не набула популярності.

a. Unfortunately, this idea failed to catch on.

b. Unfortunately, this idea didn’t give popularity.

c. Unfortunately, this idea failed to be caught.

**Варіант 4**

I. Listening Comprehension

***Task 1. Listen to the text “Microelectronic technology”. Then read the unfinished statements and choose the correct answer to finish them.***

<https://drive.google.com/file/d/1LvsiAe0bkrKP_3VgKlCLeSw3znPV0mrM/view?usp=sharing>

1. Microelectronic technology has \_\_\_\_\_\_\_\_ transistor and other circuit elements to small dimensions.

a. put

b. shrunk

c. taken

2. Due to miniaturization circuits are \_\_\_\_\_\_\_\_ and low in cost.

a. long-lasting

b. short-lasting

c. medium-lasting

3. There are \_\_\_\_\_\_\_\_ principle devices found in electronic circuits.

a. five

b. four

c. six

4. The overall \_\_\_\_\_\_\_\_ of electronic systems is related to the number of individual components.

a. productivity

b. conductivity

c. reliability

5. All elements and their interconnections are now fabricated on a single \_\_\_\_\_\_\_\_.

a. substrate

b. plate

c. grid

II. Reading Comprehension

***Task 2. Read the following professionally oriented text and define if the sentences given below are true (T) or false (F). Indicate your answer with a letter T or F in your answer sheet paper.***

**Generations of Computers**

A computer is a general-purpose device that can be programmed to carry out a finite set of arithmetic or logical operations. It is an advanced electronic device that takes raw data as an input from the user and processes it under the control of a set of instructions, produces a result, and saves it for future use. Since a sequence of operations can be readily changed, the computer can solve more than one kind of problem.

Conventionally, a computer consists of at least one processing element, typically a central processing unit (CPU) and some form of memory. The processing element carries out arithmetic and logic operations, and a sequencing control unit can change the order of operations based on stored information. Peripheral devices allow information to be retrieved from an external source, and the result of operations saved and retrieved.

The first electronic digital computers were developed between 1940 and 1945 in the United Kingdom and United States. Originally they were the size of a large room, consuming as much power as several hundred modern personal computers (PCs). In this era mechanical analog computers were used for military applications.

Modern computers based on integrated circuits are millions to billions of times more capable than the early machines, and occupy a fraction of the space. Simple computers are small enough to fit into mobile devices, and small batteries can power mobile computers. Personal computers in their various forms are icons of the Information Age and are what most people think of as "computers".

Generation in computer terminology is a change in technology a computer is/was being used. Initially, the generation term was used to distinguish between varying hardware technologies. Nowadays, generation includes both hardware and software, which together make up an entire computer system.

Taken from: <http://www.dspmuranchi.ac.in/pdf/Blog/Computer%20&%20Generations.pdf>

1. Arithmetic and logical operations are performed by CPU.
2. The first digital computers were more power consuming than a hundred modern PCs.
3. Peripheral devices enable us to retrieve information only from computer memory.
4. Usually, a computer includes one processing element.
5. Control unit can change the order of operations.

***Task 3. Read the following professionally oriented text and choose the right answers to the questions given below. Indicate your answer with a letter a, b, or c in your answer sheet paper.***

**Internet Technologies Services**

The Internet Society has a long history of the Internet technical development assistance and developing other technical activities to support its evolution as the Internet's growth. Its role in our everyday lives has inevitably introduced unexpected opportunities and challenges.

Web conferencing refers to a service that allows conferencing events to be shared with remote locations. These are sometimes referred to as webinars or, for interactive conferences, online workshops. In general, the service is made possible by Internet technologies. The service allows real-time point-to-point communications as well as multicast communications from one sender to many receivers. It offers data streams of text-based messages, voice and video chat to be shared simultaneously, across geographically dispersed locations. Applications for web conferencing include meetings, training events, lectures, or short presentations from any computer.

Some web conferencing solutions require additional software to be installed by the presenter and participants, while others eliminate this step by providing physical hardware or an appliance. In general, system requirements depend on the vendor. Some web conferencing services vendors provide a complete solution while others enhance existing technologies. Most also provide a means of interfacing with email and calendaring clients in order that customers can plan an event and share information about it, in advance. A participant can be either an individual person or a group. System requirements that allow individuals within a group to participate as individuals depend on the size of the group. Handling such requirements is often the responsibility of the group. Most vendors also provide either a recorded copy of an event or a means for a subscriber to record an event. Support for planning a shared event is typically integrated calendar and email applications.

*Taken from: https://wsuccess.typepad.com/webinarblog/2007/03/webinar\_or\_webc.html*

1. What does the term "web conferencing" mean?

a. online conferencing

b. web sites

c. world wide web

2. Which of applications is included in webinar offers list?

a. movie

b. opera show

c. lectures

3. What do some conference solutions need?

a. extra memory

b. high speed work

c. additional software

4. What do system requirements allowing individual participation within a group depend on?

a. the age of a person

b. the number of participants in a group

c. the number of groups

5. What does the support for planning conference often integrated?

a. the weather

b. the season

c. email applications

III. English in Use: Vocabulary

***Task 4. Read the text and choose the words that best fit the space. Indicate your answer with a letter a, b, or c in your answer sheet paper.***

**Scientific Societies**

The associations of specialists conducting scientific research and persons with an interest in some branch of science are united in scientific societies or communities. The scientific community is a 1) \_\_\_\_\_\_ network of interacting scientists. It includes many "sub-communities" working on particular scientific fields, and within particular 2) \_\_\_\_\_\_. Unlike in previous centuries when the community of scholars was all members of few learned societies and similar institutions, there are no singular bodies or individuals, which can be said today to speak for all science or all scientists.

Objectivity is expected to be achieved by the scientific method. Membership of the community is generally, but not exclusively, a function of education and employment status.

The most powerful 3) \_\_\_\_\_\_ for research professionals is curiosity. Understanding a piece of universe can bring 4) \_\_\_\_\_\_ and excitement to anyone. Moreover science creates new products, meets the demands of 5) \_\_\_\_\_\_ markets and satisfies social needs. However when it comes to future justification for curiosity-driven research we 6) \_\_\_\_\_\_ three 7) \_\_\_\_\_\_ .First, we have to rethink the case from inside the scientific 8) \_\_\_\_\_\_. Second, society must be engaged in continuing exchange about national goals and research 9) \_\_\_\_\_\_. Finally, we must 10) \_\_\_\_\_\_ the accessibility of science. General scientific consensus is a concept, which is often referred to when dealing with questions that can be subject to scientific methodology.

*Taken from* [*https://undsci.berkeley.edu/article/0\_0\_0/whatisscience\_07*](https://undsci.berkeley.edu/article/0_0_0/whatisscience_07)

|  |  |  |  |
| --- | --- | --- | --- |
| 1 | a. uniform | b. simultaneous | c. diverse |
| 2 | a. institutes | b. institutions | c. universities |
| 3 | a. motivation | b. motive | c. motto |
| 4 | a. hunger | b. satisfaction | c. food |
| 5 | a. constant | b. disappearing | c. emerging |
| 6 | a. encounter | b. hit | c. kick |
| 7 | a. directions | b. exercises | c. undertakings |
| 8 | a. union | b. community | c. family |
| 9 | a. signs | b. priorities | c. criteria |
| 10 | a. express | b. increase | c. expand |

IV. English in Use: Grammar

***Task 5. Read the sentences and choose the words that best fit the space. Indicate your answer with a letter a, b, or c in your answer sheet paper.***

1. In general, though, a methodology will only be as \_\_\_\_\_\_\_ as the designer’s understanding of the problem.

a. good

b. better

c. the best

2. Do not operate machinery while you \_\_\_\_\_\_\_ to sound programs that use these methodologies.

a. listens

b. are listening

c. were listening

3. In his monograph published in 1687 Newton \_\_\_\_\_\_\_ universal gravitation and the three laws of motion.

a. described

b. was describing

c. has described

4 I \_\_\_\_\_\_\_ Internet technologies since 1992.

a. have studied

b. have been studying

c. am studying

5. If the room you're working in \_\_\_\_\_\_\_ poor acoustics, it will be extremely difficult to produce excellent results.

a. has

b. have

c. will have

6. It will be \_\_\_\_\_\_\_ improved.

a. consider

b. considerable

c. considerably

7. \_\_\_\_\_\_\_ 40 years ago the book is still of great interest.

a. writing

b. having written

c. having been written

8. The specialists believe the vertical structures \_\_\_\_\_\_\_ more variable.

a. to be

b. been

c. was

9. The bases in the lateral transistors \_\_\_\_\_\_\_ to be thicker than those in the vertical devices.

a. known

b. are knowing

c. are known

**10.** The professor said to the students that the next lecture \_\_\_\_\_\_\_ on ultrasound.

**a. would be**

**b. will be**

**c. is**

11. Very accurate resistors \_\_\_\_\_\_\_ in instruments.

a. are used

b. have used

c. have been used

12. Secondary cells \_\_\_\_\_\_\_ be recharged to their original voltage.

a. must

b. have to

c. can

13. A fuse is connected in the live side of the supply \_\_\_\_\_\_ the transformer.

a. protected

b. to be protected

c. to protect

14. There is \_\_\_\_\_\_\_ complex hierarchy in the system.

a. a

b. the

c. –

15. Participants of the Symposium \_\_\_\_\_\_\_ to submit papers in the areas of Health and Biomedical Science.

a. were invited

b. invited

c. invites.

16. For \_\_\_\_\_\_\_ reason our company have a problem.

a. some

b. any

c. the

17. \_\_\_\_\_\_\_ they necessary materials, it would be possible to finish the work in time.

a. Have

b. Had

c. Having

18. The professor said water \_\_\_\_\_\_\_ at 0 C.

a. will freeze

b. froze

c. freezes

19. We are going to congratulate you … your promotion.

a. on

b. about

c. of

20. It was of great surprise for us \_\_\_\_\_\_\_ that his research did not give the result we expected.

a. to realize

b. to be realized

c. realizing

V. Translation Practice

***Task 6. Choose the appropriate Ukrainian translation for the following English sentences. Indicate your answer with a letter a, b, or c in your answer sheet paper.***

1. It provides the physician with real-time sectional images

a. Це дає лікарю зображення у розрізі у реальному часі.

b. Це дає фізику зображення по секціям у реальному часі.

c. Це дає лікарю зображення реального часу по секціям.

2. The principle of this examination technique is based on laws of physics.

a. Головна частина цієї діагностичної техніки базується на законах фізики.

b. Принцип цієї екзаменаційної техніки базується на законах фізики.

c. Принцип цієї діагностичної техніки базується на законах фізики.

3. Modern equipment gives exceptionally detailed resolution.

a. Сучасне обладнання дає обмеження у детальній роздільній здатності.

b. Сучасне обладнання дає виключно детальну резолюцію.

c. Сучасне обладнання дає виключно детальну роздільну здатність.

4. Ultrasound is the name for mechanical oscillations that lies outside the human hearing range.

a. Ультразвук – це назва для механічних коливань, що знаходяться з іншої сторони діапазону чутності людини.

b. Ультразвук – це назва для механічних коливань, що лежить поза чутністю рангу людини.

c. Ультразвук – це назва для механічних коливань, що знаходяться поза діапазоном чутності людини.

5. The sound waves are introduced into the human body as pulses.

a. Звукові хвилі вводяться в людське тіло у формі імпульсів.

b. Звукові хвилі представляються в людському тілі як імпульси.

c. Звукові хвилі вводяться в людське тіло подібно імпульсам.

***Task 7. Choose the appropriate English translation for the following Ukrainian sentences. Indicate your answer with a letter a, b, or c in your answer sheet paper.***

1. Чим більше різниця між акустичними імпедансами. тим сильніша луна.

a. The greater the difference between acoustic impedances, the larger the moon is.

b. The greater the difference between acoustic impedances, the larger the echo is.

c. The difference between acoustic impedances greater, the larger the echo is.

2. Створення образу зі звуку відбувається за три кроки.

a. The creation of an image from sound is done in three steps.

b. The creation of a sound from image is done in three steps.

c. The creature of a sound from image is done in three steps.

3. На чому базується принципи діагностики?.

a. What is the principle of diagnosis based on?

b. On what is based the principles of diagnosis?

c. What is based the principles of diagnosis on?

4. Оскільки опір дуже високий, то струм не протікає.

a. Thus resistance being very high, then the current does not flow.

b. Therefore resistance being very high, the current does not flow.

c. The resistance being very high, the current does not flow.

5. Довжина хвилі залежить від частоти та швидкості, якщо у середовищі немає дисперсії.

a. Wavelength changes frequency and speed if there is no dispersion in the medium.

b. Wavelength depends on frequency and speed if there is no dispersion in the medium.

c. Wavelength depending on frequency and speed if there is no dispersion in the medium.

**Варіант 5**

I. Listening Comprehension

***Task 1. Listen to the text “Modern Resistor Technology”. Then read the unfinished statements and choose the correct answer to finish them.***

<https://drive.google.com/file/d/1jtHuXvpZLH0hQFrCje7Nl9Y27doRTtk4/view?usp=sharing>

1. Resistors are components that have a predetermined \_\_\_\_\_\_\_\_.

a. capacitance

b. resistance

c. inductance

2. Wires are usually marked with \_\_\_\_\_\_\_\_.

a. colored stripes

b. colored lines

c. colored sheets

3. A low resistance allows a large amount of \_\_\_\_\_\_\_\_ to flow.

a. stream

b. energy

c. current

4. Rubber or plastic keep the wires from coming in contact with the wires and creating short \_\_\_\_\_\_\_\_.

a. circuits

b. connections

c. elements

5. Sparks and lightning are brief displays of current flow through

\_\_\_\_\_\_\_\_.

a. rod

b. air

c. wire

II. Reading Comprehension

***Task 2. Read the following professionally oriented text and define if the sentences given below are true (T) or false (F). Indicate your answer with a letter T or F in your answer sheet paper.***

**Medical Equipment**

Electrocardiograph (ECG) and electroencephalograph (EEG) equipment have traditionally needed hard-intensive input signal conditioning. The front-end circuits interface directly to signal transducers - electrodes on a patient's body - to measure heart or brain activity. The input signal typically includes a variable dc component and a much smaller ac signal. A system's front-end typically includes a low-noise instrumentation amplifier circuit (to strip out the dc component and to amplify the ac signal), a 2nd order low-pass filter, and A/D converter. Single-channel EEG or ECG machines are rare; a typical system would have 8 channels, 8 filters, and an 8-channel multiplexer. Such a system is hardware- and space-intensive, power-hungry, and costly.

If a sigma-delta solution is considered, it is possible to reconfigure and simplify the front end, compared to the depth of hardware required to implement the traditional 12-lead ECG. However, by utilizing the high resolution of sigma delta converters, it is possible to consider a system whereby there is no need to take out the offset and common-mode signals in hardware. Instead, digitizing the complete signal to the required resolution will allow the ECG signal to be intelligently separated by the system processor from the variable dc baseline and other normal-mode noise. The bandwidth requirements for ECG machines depend on the application. There are two broad categories: diagnostic and monitor. The toughest requirements are for diagnostic systems, used in patient analysis and diagnosis. For monitors they are not so strict.

Reduced bandwidth helps the monitors resist disturbances caused by electrical noise, body movements etc., but it also restricts the amount the information in the ECG. Manufacturers choose the bandwidth to meet specific requirements for their machines, often a compromise between diagnostic and monitor standards.

*Taken from: https://www.researchgate.net/publication/228599963\_Fundamental\_of\_EEG\_Measurement*

* + 1. In measuring brain activity the input signal usually includes both dc component and ac signal.
    2. Usually a low-noise instrumentation amplifier circuit is used to amplify dc signal component.
    3. It is possible to digitize the complete signal to separate the ECG signal from the variable dc baseline and other normal-mode noise.
    4. Comparatively to monitors, bandwidth requirements for diagnostic systems are not as strict.
    5. Reduced bandwidth prevents the monitors resist disturbances provoked by body movements.

***Task 3. Read the following professionally oriented text and choose the right answers to the questions given below. Indicate your answer with a letter a, b, or c in your answer sheet paper.***

**Radio Circuits**

Today's radio consists of a speaker, printed circuit board, resistors, capacitors, coils and transformers, transistors, integrated circuits, and a transducer. All of these parts are housed in a plastic case. Essential components of a radio transmitter include an oscillation generator for converting commercial electric power into oscillations of a predetermined radio frequency; amplifiers for increasing the intensity of these oscillations while retaining the desired frequency; and a transducer for converting the information to be transmitted into a varying electrical voltage proportional to successive instantaneous intensity.

For sound transmission a microphone is the transducer; for picture transmission the transducer is a photoelectric device (Facsimile Transmission; television). Other important components of the radio transmitter are the modulator, which uses these proportionate voltages to control the variations in the oscillation intensity or the instantaneous frequency of the carrier, and the antenna, which radiates a similarly modulated carrier wave. Every antenna has some directional properties, that is, it radiates more energy in some directions than in others, but the antenna can be modified so that the radiation pattern varies from a comparatively narrow beam to a comparatively even distribution in all directions; the latter type of radiation is employed in broadcasting.

The particular method of designing and arranging the various components depends on the effects desired. The principal criteria of a radio in a commercial or military airplane, for example, are light weight and intelligibility; cost is a secondary consideration, and fidelity of reproduction is entirely unimportant. In a commercial broadcasting station, on the other hand, size and weight are of comparatively little importance; cost is of some importance; and fidelity is of the utmost importance, particularly for FM stations; rigid control of frequency is an absolute necessity.

*Taken from:* [*http://stjarnhimlen.se/tv/tv.html*](http://stjarnhimlen.se/tv/tv.html)

1. What is the function of oscillation generator?

a. to increase the intensity of oscillations

b. to convert electric power into oscillations

c. to convert information into a varying electric voltage

2. What device is used as transducer for picture transmission?

a. photoelectric device

b. a microphone

c. a telephone

3. What property is peculiar to antennas?

a. liquidity

b. diffusion

c. directness

4. What does the method of components designing mostly depend on?

a. the desired result

b. their dimensions

c. their price

5. Which of radio criteria are of primary importance for military airplanes?

a. the cost

b. the weight

c. the fidelity

III. English in Use: Vocabulary

***Task 4. Read the text and choose the words that best fit the space. Indicate your answer with a letter a, b, or c in your answer sheet paper.***

**Industrial Electronics**

Hundreds of electronic equipment is now used for scientific, industrial and everyday purposes. They help to do jobs better or more 1) \_\_\_\_\_\_ than before and take over jobs that couldn't be done otherwise.

Industrial electronics refers to equipment, tools and processes that involve electrical 2) \_\_\_\_\_\_ in an industrial setting. This could be a laboratory, automotive plant, and power plant or construction site. Industrial electronics are also used extensively in: chemical processing plants, 3) \_\_\_\_\_\_ and metal processing units and semiconductor manufacturing.

The scope of industrial electronics ranges from the design and maintenance of simple electrical 4) \_\_\_\_\_\_ to complicated programmable logic controllers, 5) \_\_\_\_\_\_ devices and motor drives.

The increasing trends toward miniaturization have resulted in the development of micro integrated 6) \_\_\_\_\_\_ performing the combined functions of several stages. Integrated circuits (ICs) are a vital component in almost all fields of the modern world. As a result, 7) \_\_\_\_\_\_ management in these ICs has become more and more critical. From 8) \_\_\_\_\_\_ products such as computers, tablets and TVs, to servers and industrial applications such as medical equipment and portable instruments, modern electronic devices require efficient power management solutions. Some of the key 9) \_\_\_\_\_\_ of today’s power management solutions include less power 10) \_\_\_\_\_\_ under various load conditions, less space, high reliability and wide input voltage.

*Taken from: https://obrazovalka.com/qa/angliyskiy-yazyk/4517838-pomogite-otvetit-na-voprosy-tekst-hundreds-of-electronic-devices-are-now*

|  |  |  |  |
| --- | --- | --- | --- |
| 1 | a. good | b. rationally | c. bad |
| 2 | a. equipment | b. current | c. power |
| 3 | a. making | b. meaning | c. mining |
| 4 | a. fuses | b. holes | c. gaps |
| 5 | a. solid-state | b. soft-state | c. hard-state |
| 6 | a. conductor | b. wire | c. circuitry |
| 7 | a. power | b. strength | c. push |
| 8 | a. consume | b. consumer | c. consumed |
| 9 | a wishes | b. requirements | c. advise |
| 10 | a. taking | b. getting | c. consumption |

IV. English in Use: Grammar

***Task 5. Read the sentences and choose the words that best fit the space. Indicate your answer with a letter a, b, or c in your answer sheet paper.***

1. Although the students \_\_\_\_\_\_\_ on the project for six weeks, their report was not ready by the due date.

a. were working

b. had worked

c. had been working

2. By Doppler's time, physicists \_\_\_\_\_\_\_ the existence of sound waves, as well as the fact a sound's pitch is a function of frequency.

a. had recognized

b. recognized

c. have recognized

3. The ultrasonic cleaner, if it \_\_\_\_\_\_\_ necessary, can be operated in a cold room

a. would be

b. is

c. were

4. The higher the altitude, the \_\_\_\_\_\_\_ air.

a. rare

b. rarer

c. is rarer

5. Engineering programs \_\_\_\_\_\_\_ at our university is of primary importance.

a. set up

b. setting up

c. being setting up

6. These new computers \_\_\_\_\_\_\_ to be used to tackle the most complicated problems

a. like

b. likely

c. are likely

7. The assistant said that he \_\_\_\_\_\_\_ ready a few minutes later.

a. be

b. will be

c. would be

8. The technique was created \_\_\_\_\_\_\_ the specific needs of system design.

a. to satisfy

b. to be satisfied

c. to have satisfied

9. The traditional way of \_\_\_\_\_\_\_ it was to compute the differentials between electrodes by means of hardware.

a. do

b. doing

c. done

**10.** These ICs are \_\_\_\_\_\_\_ to tests for measuring its capability to reject radio frequency.

a. subjecting

b. subjected

c. having subjected

1. The colors \_\_\_\_\_\_\_ the value of the resistor.

a. indicate

b. are indicated

c. indicated

12. The stage consists of four diodes \_\_\_\_\_\_\_ in one package.

a. containing

b. contained

c. to contain

13. It has \_\_\_\_\_\_\_ unique property.

a. the

b. an

c. a

14. \_\_\_\_\_\_\_ operators form the basis of mathematical sets and database logic.

a. Boolean’s

b. Boolean

c. A Boolean

15. The documentation doesn’t give \_\_\_\_\_\_\_ example how to start.

a. some

b. any

c. the

16. The test would be successful \_\_\_\_\_\_\_ we had all necessary equipment.

a. though

b. unless

c. provided

17. The teacher said that our laboratory work \_\_\_\_\_\_\_ the following Monday.

a. would be held

b. would be holding

c. being held

18. \_\_\_\_\_\_\_ the new technologies has required a high level of scientific training.

a. to exploit

b. exploiting

c. having exploited

19. It’s no use \_\_\_\_\_\_\_ an electric switch, which can be controlled by another one.

a. making

b. to make

c. being made

20. Bipolar transistors remain popular for applications … high-frequency signals.

a. to involve

b. involving

c. involved

V. Translation Practice

***Task 6. Choose the appropriate Ukrainian translation for the following English sentences. Indicate your answer with a letter a, b, or c in your answer sheet paper.***

1. The number of channel can range from three to sixteen electrodes.

a. Кількість каналів визначає ранг від трьох до шістнадцяти.

b. Кількість змінних каналів може бути від трьох до шістнадцяти.

c. Кількість каналів може змінюватись від трьох до шістнадцяти.

2. What components does input signal consist of?

a. Які компоненти роблять сигнал вхідним?

b. З яких компонентів складається вхідний сигнал?

c. Які компоненти сигналу є вхідними?

3. So far the data had been collected from eight normal English speaking subjects.

a. Досі дані були зібрані у восьми нормальних людей, що розмовляють англійською мовою.

b. Так далеко дані були зібрані у восьми нормальних людей, що розмовляють англійською мовою.

c. Досі дані мали бути зібрані у восьми нормальних людей, що розмовляють англійською мовою.

4. What is the objective of your research?

a. Що є об'єктом вашого дослідження?

b. Що забезпечує об'єктивність вашого дослідження?

c. Яка мета вашого дослідження?

5. When it comes to research, enthusiasm does matter.

a. Коли діло доходить до досліджень, ентузіазм справді важливий.

b. У дослідженнях ентузіазм справді важливий.

c. Коли діло доходить до досліджень, ентузіазм – це головне.

***Task 7. Choose the appropriate English translation for the following Ukrainian sentences. Indicate your answer with a letter a, b, or c in your answer sheet paper.***

1. Які параметри середовища визначають швидкість розповсюдження звуку?

a. Which parameters of medium define the sound propagation speed?

b. Which parameters of medium determine the sound propagation speed?

c. Which parameters of medium are determining the sound propagation speed?

2. Чи є тканина людського тіла середовищем вільним від дисперсії?

a. Is human tissue a dispersion-free medium?

b. Is human body tissue a free dispersion medium?

c. Is human tissue a medium free from dispersion?

3. Світло може розповсюджуватись у вакуумі.

a. Light can dissipate in a vacuum.

b. Light can diminish in a vacuum.

c. Light can propagate in a vacuum.

4. Традиційним способом зробити це був підрахунок диференціалу між електродами.

a. The traditional means of doing this was to compute the differentials between electrodes.

b. The traditional way of doing this was to compute the differentials between electrodes.

c. The traditional way of doing this was different to computation between electrodes.

5. У новому підході можливо задовольнити специфічні потреби системного дизайну.

a. In a new approach it is possible to satisfy the specific needs of system design.

b. In a new approach it is possible the specific satisfaction of system design needs.

c. In a new approach it is possible to satisfy the needs of specific system design.

**Список рекомендованої літератури**

**для самостійної підготовки здобувачів ступеня магістра**

**до залікової контрольної роботи**

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