

**НАЦІОНАЛЬНИЙ АВІАЦІЙНИЙ УНІВЕРСИТЕТ**  
**ФАКУЛЬТЕТ АЕРОНАВІГАЦІЇ, ЕЛЕКТРОНІКИ ТА ТЕЛЕКОМУНІКАЦІЙ**  
**КАФЕДРА АВІАЦІЙНОЇ АНГЛІЙСЬКОЇ МОВИ**

**ЗАТВЕРДЖУЮ**

Зав. кафедри \_\_\_\_\_ Наталія ПАЗІЮРА

(підпис)

(ПІБ)

« \_\_\_\_\_ » \_\_\_\_\_ 20\_\_ р.

**ЕКЗАМЕНАЦІЙНИЙ БІЛЕТ №1**

Дисципліна «Фахова іноземна мова»

**Спеціальність:** 174 Автоматизація, комп'ютерно-інтегровані технології та  
робототехніка

**1. Прочитати текст та відповісти на питання.**

**Fuses**

In electronics and electrical engineering, a fuse is a type of resistor that acts as a sacrificial device to provide overcurrent protection, of either the load or source circuit. Its essential component is a metal wire or strip that melts when too much current flows through it, interrupting the circuit that it connects. Short circuits, overloading, mismatched loads, or device failure are the prime reasons for excessive current. Fuses can be used as alternatives to circuit breakers. A fuse interrupts an excessive current so that further damage by overheating or fire is prevented. Wiring regulations often define a maximum fuse current rating for particular circuits. Overcurrent protection devices are essential in electrical systems to limit threats to human life and property damage. The time and current operating characteristics of fuses are chosen to provide adequate protection without needless interruption. Fuses are manufactured in a wide range of current and voltage ratings to protect wiring systems and electrical equipment.

1. What is a fuse used for?
2. What is a fuse made of?
3. How does a fuse work?

4. What characteristics do fuses have?
5. Why are fuses manufactured in a wide range?

## 2. Виконати граматично-лексичне завдання.

1. She can't answer the phone, at the moment she (to cook) dinner.  
A) cooks; B) was cooking; C) had cooked; D) is cooking.
2. I didn't want to go to the cinema yesterday, because I (already to watch) the film.  
A) have watched; B) watched; C) had watched; D) is watching.
3. When it was 3:00 p.m. I (to wait) for Bob for two hours.  
A) would have waited; B) waited; C) have waited; D) have been waiting.
4. We (to live) in Kyiv since 1995. And I still like it a lot.  
A) have lived; B) were living; C) lived; D) would have lived.
5. At 7 o'clock tomorrow we (to have) barbecue, you are welcome to join.  
A) are having; B) will have; C) were having; D) have had.

## 3. Усна бесіда за темою: “History of aviation. Types of aircraft”.

Затверджено на засіданні кафедри

Протокол № \_\_\_\_\_ від „\_\_\_\_\_” \_\_\_\_\_ 20\_\_\_\_ року

Викладач \_\_\_\_\_

(підпис)

(П.І.Б)

**НАЦІОНАЛЬНИЙ АВІАЦІЙНИЙ УНІВЕРСИТЕТ**  
**ФАКУЛЬТЕТ АЕРОНАВІГАЦІЇ, ЕЛЕКТРОНІКИ ТА ТЕЛЕКОМУНІКАЦІЙ**

**КАФЕДРА АВІАЦІЙНОЇ АНГЛІЙСЬКОЇ МОВИ**

**ЗАТВЕРДЖУЮ**

Зав. кафедри \_\_\_\_\_ Наталія ПАЗІЮРА

(підпис)

(ПІБ)

« \_\_\_\_\_ » \_\_\_\_\_ 20\_\_ р.

**ЕКЗАМЕНАЦІЙНИЙ БІЛЕТ №2**

Дисципліна «Фахова іноземна мова»

Спеціальність:151 «Автоматизація та комп'ютерно-інтегровані технології»

**1. Прочитати текст та відповісти на питання.**

**Computers**

A computer is any device that can perform a sequence of operations. Currently, however, the term refers to an electronic device that executes a list of instructions, called a program, to perform calculations or to store, manipulate, or retrieve information. Today's computers are marvels of miniaturization: machines that once weighed tons now may weigh as little as a few ounces and can be carried in a wristwatch. At the heart of today's computers are integrated circuits (ICs), sometimes called microprocessors, microchips, or simply chips that contain millions of microscopic electronic components and are designed for many specific operations. Some control an entire computer (CPU, or central processing unit); some perform millions of mathematical operations per second (math coprocessors); others can store millions of characters of information at one time (memory chips). Computers are an integral part of electronic calculators; they can also be found in digital watches (controlling timing, alarms, and displays), cameras (monitoring

shutter speeds and aperture settings), and automobiles (controlling fuel injection, heating, and air conditioning and monitoring hundreds of electronic sensors).

1. What is a computer?
2. How can you characterize modern computers?
3. What is at the heart of today's computers?
4. What are the functions of integrated circuits?
5. Where are computers used these days?

## 2. Виконати граматично-лексичне завдання.

1. I (to finish) my work by tomorrow.  
A) will have finished; B) have had finished; C) would have; D) should have.
2. I (to drive) at 4:00 p.m. yesterday.  
A) have been driving; B) was driving; C) will be; D) had driven.
3. I (to go) to the office every day.  
A) was going; B) will be; C) go; D) have gone.
4. I (to work) on the project for a month when you join me.  
A) had worked; B) was working; C) will be working; D) would work.
5. I think I (to stay) at home this evening.  
A) Will stay; B) would stay; C) is staying; D) would be staying.

## 3. Усна бесіда за темою: “Electric current. Units of measurement of electric current”.

Затверджено на засіданні кафедри

Протокол № \_\_\_\_\_ від „\_\_\_\_\_” \_\_\_\_\_ 20\_\_\_\_ року

Викладач \_\_\_\_\_

(підпис)

(П.І.Б)

**НАЦІОНАЛЬНИЙ АВІАЦІЙНИЙ УНІВЕРСИТЕТ**  
**ФАКУЛЬТЕТ АЕРОНАВІГАЦІЇ, ЕЛЕКТРОНІКИ ТА ТЕЛЕКОМУНІКАЦІЙ**

**КАФЕДРА АВІАЦІЙНОЇ АНГЛІЙСЬКОЇ МОВИ**

**ЗАТВЕРДЖУЮ**

Зав. кафедри \_\_\_\_\_ Наталія ПАЗІЮРА

(підпис)

(ПІБ)

« \_\_\_\_\_ » \_\_\_\_\_ 20\_\_ р.

**ЕКЗАМЕНАЦІЙНИЙ БІЛЕТ №3**

Дисципліна «Фахова іноземна мова»

Спеціальність:151 «Автоматизація та комп'ютерно-інтегровані технології»

**1. Прочитати текст та відповісти на питання.**

**Integrated circuits**

During the late 1960s, the integrated circuit came into being. Hundreds of transistors, diodes, and resistors could be put onto a single chip, resulting in higher operating speeds, increased capacity, better reliability...and lower cost. The integrated circuit (IC), also called a microelectronic circuit or microchip, is an assembly of electronic components, fabricated as a single unit, in which miniaturized active devices (e.g., transistors and diodes) and passive devices (e.g., capacitors and resistors) and their interconnections are built upon a thin substrate of semiconductive material (typically silicon). Every modern computer system consists of three basic sections: a processor, some memory, and peripheral (Input/Output) devices. The term hardware refers to the physical components of the computer system (as opposed to the software). Your computer hardware will consist of the devices within the case of the computer itself, and any peripheral devices that are connected to the computer (such as the mouse and keyboard). Computer memory comes in 2 basic types: Random Access Memory (RAM),

which the processor can read from and write to, and Read-Only Memory (ROM) which the processor can never change. Since the information in a Read-Only Memory is built into the part at the factory, ROMs retain their information even when the power is turned off.

1. When was the integrated circuit invented?
2. What does the term “integrated circuit” mean?
3. What is the integrated circuit consist of?
4. What do the terms “hardware” and “software” mean?
5. What are the types of computer memory?

## 2. Виконати граматично-лексичне завдання.

1. Currently I (to work) on a very exciting project.  
A) work; B) have worked; C) would working; D) is working.
2. By the time Mary got to the office, her boss (already to leave).  
A) left; B) was leaving; C) has left; D) had left.
3. When Jane came home, Martin was very tired, because he (to work) hard all day.  
A) has been working; B) worked; C) had worked; D) was working.
4. I don't want to go to the café, I (just to eat).  
A) ate; B) has eaten; C) had eaten; D) was eating.
5. Tomorrow at 5 o'clock he (to play) football.  
A) played; B) had been playing; C) had played ; D) was playing.

## 3. Усна бесіда за темою: “Prominent figures in aviation and astronautics.”

Затверджено на засіданні кафедри

Протокол № \_\_\_\_\_ від „\_\_\_\_\_” \_\_\_\_\_ 20\_\_\_\_ року

Викладач \_\_\_\_\_

(підпис)

(П.І.Б)

**НАЦІОНАЛЬНИЙ АВІАЦІЙНИЙ УНІВЕРСИТЕТ**  
**ФАКУЛЬТЕТ АЕРОНАВІГАЦІЇ, ЕЛЕКТРОНІКИ ТА ТЕЛЕКОМУНІКАЦІЙ**

**КАФЕДРА АВІАЦІЙНОЇ АНГЛІЙСЬКОЇ МОВИ**

**ЗАТВЕРДЖУЮ**

Зав. кафедри \_\_\_\_\_ Наталія ПАЗІЮРА

(підпис)

(ПІБ)

« \_\_\_\_\_ » \_\_\_\_\_ 20\_\_ р.

**ЕКЗАМЕНАЦІЙНИЙ БІЛЕТ №4**

Дисципліна «Фахова іноземна мова»

Спеціальність: 151 «Автоматизація та комп'ютерно-інтегровані технології»

**1. Прочитати текст та відповісти на питання.**

**From the history of aircraft**

The history of aircraft structures underlies the history of aviation in general. Advances in materials and processes used to construct aircraft have led to their evolution from simple wood truss structures to the sleek aerodynamic flying machines of today. Combined with continuous powerplant development, the structures of "flying machines" have changed significantly. The key discovery that "lift" could be created by passing air over the top of a curved surface set the development of fixed and rotary-wing aircraft in motion. George Cayley developed an efficient cambered airfoil in the early 1800s, as well as successful manned gliders later in that century. He established the principles of flight, including the existence of lift, weight, thrust, and drag. It was Cayley who first stacked wings and created a tri-wing glider that flew a man in 1853. Earlier, Cayley studied the centre of gravity of flying machines, as well as the effects of wing dihedral. Furthermore, he pioneered directional control of aircraft by including the earliest form of a rudder on his gliders. In the late 1800s, Otto Lilienthal built upon

Cayley's discoveries. He manufactured and flew his gliders on over 2,000 flights. His willow and cloth aircraft had wings designed from extensive study of the wings of birds. Lilienthal also made standard use of vertical and horizontal fins behind the wings and pilot station.

1. Which contributed to the evolution of aircraft?
2. What discovery has set the development of fixed and rotary-wing aircraft in motion?
3. What were Cayley's most important inventions?
4. What principles of flight did Cayley establish?
5. In what way did Otto Lilienthal continue the job started by Cayley?

## 2. Виконати граматично-лексичне завдання.

1. Jason will be tired when he gets home because he (to do) everything by this time.  
A) will do; B) will be doing; C) will have done; D) would do.
2. When she came, we (to play) football.  
A) were playing; B) will be playing; C) would be playing; D) played.
3. Water (to boil) at 100 degrees.  
A) is boiling; B) will boil; C) boils; D) would boil.
4. By the end of next year, we (to run) our own company for five years.  
A) will be running; B) would run; C) are running; D) have run.
5. I am sure tomorrow he (to be late).  
A) is late; B) will be late; C) would be late; D) had been late.

## 3. Усна бесіда за темою: “Conductive materials and insulating materials.”

Затверджено на засіданні кафедри

Протокол № \_\_\_\_\_ від „\_\_\_\_\_” \_\_\_\_\_ 20\_\_\_\_ року

Викладач \_\_\_\_\_

(підпис)

(П.І.Б)



**НАЦІОНАЛЬНИЙ АВІАЦІЙНИЙ УНІВЕРСИТЕТ**  
**ФАКУЛЬТЕТ АЕРОНАВІГАЦІЇ, ЕЛЕКТРОНІКИ ТА ТЕЛЕКОМУНІКАЦІЙ**

**КАФЕДРА АВІАЦІЙНОЇ АНГЛІЙСЬКОЇ МОВИ**

**ЗАТВЕРДЖУЮ**

Зав. кафедри \_\_\_\_\_ Наталія ПАЗІЮРА

(підпис)

(ПІБ)

« \_\_\_\_\_ » \_\_\_\_\_ 20\_\_ р.

**ЕКЗАМЕНАЦІЙНИЙ БІЛЕТ №5**

Дисципліна «Фахова іноземна мова»

Спеціальність: 151 «Автоматизація та комп'ютерно-інтегровані технології»

**1. Прочитати текст та відповісти на питання.**

**Electricity**

Electricity is the phenomenon caused by a fundamental property of matter called electric charge. The term is commonly used to refer to electric charge itself, electric energy, and electric power. Opposite charges attract one another and like charges repel one another. In other words, protons are attracted to electrons and repelled by other protons. Likewise, electrons are attracted to protons and repelled by other electrons. This phenomenon is caused by what is known as an electric force. The most matter has no overall electrical charge because of the balance between the number of protons and electrons. However, when the balance of the electrical force between protons and electrons is disturbed by another force (e.g. magnetic forces) an atom may gain or lose an electrical charge. When this occurs, the atom will either have an overall negative or overall positive charge. The atom in this state is now called an ion. Now that the atom has an overall electrical charge it will interact with other charged ions; oppositely charged ions will attract one another, and like ions will repel one another.

1. What is electricity?
2. What is the term 'electricity' commonly used to refer to?
3. What does it happen with opposite and like charges?
4. How do you understand the phenomena of electric force?
5. Under what conditions does an atom transform into an ion?

## 2. Виконати граматично-лексичне завдання.

1. Don't bother me. I (to try) to concentrate.  
A) try; B) have tried; C) was trying; D) am trying.
2. My friend (to ring) me up before he went home.  
A) have rung; B) would rung; C) was ringing; D) had rung.
3. Yesterday we (to play) for two hours when Tom arrived  
A) played; B) were playing; C) have played; D) would played.
4. The government (to become) more interested in technical education.  
Nowadays there are lots of improvements.  
A) is becoming; B) have become; C) became; D) would become.
5. Tomorrow at 11 p.m., we (to dance) at the party.  
A) will be dancing; B) would be dancing; C) have danced; D) will dance.

## 3. Усна бесіда за темою: "Types of electrical circuits. Circuits of series, parallel and series-parallel connection?"

Затверджено на засіданні кафедри

Протокол № \_\_\_\_ від „ \_\_\_\_ ” \_\_\_\_\_ 20 \_\_\_\_ року

Викладач \_\_\_\_\_

(підпис)

(П.І.Б)

**НАЦІОНАЛЬНИЙ АВІАЦІЙНИЙ УНІВЕРСИТЕТ**  
**ФАКУЛЬТЕТ АЕРОНАВІГАЦІЇ, ЕЛЕКТРОНІКИ ТА ТЕЛЕКОМУНІКАЦІЙ**

**КАФЕДРА АВІАЦІЙНОЇ АНГЛІЙСЬКОЇ МОВИ**

**ЗАТВЕРДЖУЮ**

Зав. кафедри \_\_\_\_\_ Наталія ПАЗІЮРА

(підпис)

(ПІБ)

« \_\_\_\_\_ » \_\_\_\_\_ 20\_\_ р.

**ЕКЗАМЕНАЦІЙНИЙ БІЛЕТ №6**

Дисципліна «Фахова іноземна мова»

Спеціальність:151 «Автоматизація та комп'ютерно-інтегровані технології»

**1. Прочитати текст та відповісти на питання.**

**The Internet**

No one actually owns the Internet, and no single person or organization controls the Internet in its entirety. There are many organizations, corporations, governments, schools, private citizens and service providers that all own pieces of the infrastructure, but there is no one body that owns it all. There are, however, organizations that oversee and standardize what happens on the Internet and assign IP addresses and domain names. The Internet began as a Cold War project to create a communications network that was immune to a nuclear attack. In 1969, the U.S. government created ARPANET, connecting four western universities and allowing researchers to use the mainframes of any of the networked institutions. New connections were soon added to the network, bringing the number of "nodes" up to 23 in 1971, 111 in 1977, and almost 4 million in 1994. As the size of the network grew so did its capabilities. Now, new developments come to the Net one right after the other. It is this explosive growth in recent years that has captured the imagination of computer users the world over.

1. Who owns Internet?
2. Why is it necessary to oversee and standardize the Internet?
3. How did the Internet begin?
4. What was the name of the first network?
5. How do you understand the expression “explosive growth in recent years” about the Internet?

## 2. Виконати граматично-лексичне завдання.

1. By 10 o'clock tomorrow we (to finish) the project.  
A) finish; B) will finish; C) finished; D) will have finished.
2. The children (to do) their homework when I got home.  
A) did; B) have done; C) will do; D) were doing.
3. John (to like) wearing stylish clothes.  
A) liked; B) likes; C) is liking; D) was liking.
4. By next summer we (to live) here for ten years  
A) Have lived; B) will be living; C) lived; D) would live.
5. I think I (to try) one of those. (I just decided this right now).  
A) have tried; B) will try; C) am going to try; D) am trying.

## 3. Усна бесіда за темою: “Outstanding scientists in the field of electricity and magnetism?”

Затверджено на засіданні кафедри

Протокол № \_\_\_\_\_ від „\_\_\_\_\_” \_\_\_\_\_ 20\_\_\_\_ року

Викладач \_\_\_\_\_

(підпис)

(П.І.Б)

**НАЦІОНАЛЬНИЙ АВІАЦІЙНИЙ УНІВЕРСИТЕТ**  
**ФАКУЛЬТЕТ АЕРОНАВІГАЦІЇ, ЕЛЕКТРОНІКИ ТА ТЕЛЕКОМУНІКАЦІЙ**

**КАФЕДРА АВІАЦІЙНОЇ АНГЛІЙСЬКОЇ МОВИ**

**ЗАТВЕРДЖУЮ**

Зав. кафедри \_\_\_\_\_ Наталія ПАЗІЮРА

(підпис)

(ПІБ)

« \_\_\_\_\_ » \_\_\_\_\_ 20\_\_ р.

**ЕКЗАМЕНАЦІЙНИЙ БІЛЕТ №7**

Дисципліна «Фахова іноземна мова»

Спеціальність:151 «Автоматизація та комп'ютерно-інтегровані технології»

**1. Прочитати текст та відповісти на питання.**

**Types of input devices**

The most standard types of input devices are keyboards and pointing devices (such as the mouse and its variations). With a keyboard, you can type text, select commands, and move around in a document. Most keyboards use the QWERTY layout, which gets its name from the order of the keys in the upper-left portion of the keyboard. A mouse is used to perform tasks such as starting programs, selecting the text, and moving and resizing items. You can point, click, double-click, and drag items on the screen with a mouse. Buttons below a trackpad are used for clicking purposes. Some mice also have track wheels, a wheel mounted on the mouse that allows users to scroll up and down within a selected window. Input devices for specialized uses can be grouped into several categories: devices that allow people to use their hands to input data, optical devices that allow computers to use light as an input source, and devices that relate to audio/visual technologies.

1. What are the most standard types of input devices?
2. What can you do with a keyboard?
3. How do you understand QWERTY layout of the keyboards?
4. What for a mouse is used?
5. What categories of input devices for specialized uses can you name?

## 2. Виконати граматично-лексичне завдання.

1. By next Friday we (to do) this work.  
A) have done; B) will have done; C) will be doing; D) were doing.
2. When Winston came home, Karen (to sleep).  
A) slept; B) was sleeping; C) have slept; D) will be sleeping.
3. She always (to do) the dishes.  
A) did; B) was doing; C) does; D) will be doing.
4. By next week we (to do) this work for three months.  
A) will have done; B) were doing; C) will be doing; D) did.
5. 'Oh! I've left the door open.' 'I (to go) and shut it.'  
A) Will go; B) am going; C) was going; D) go.

## 3. Усна бесіда за темою: "Engineer's workplace".

Затверджено на засіданні кафедри

Протокол № \_\_\_\_\_ від „\_\_\_\_\_” \_\_\_\_\_ 20\_\_\_\_ року

Викладач \_\_\_\_\_

(підпис)

(П.І.Б)

**НАЦІОНАЛЬНИЙ АВІАЦІЙНИЙ УНІВЕРСИТЕТ**  
**ФАКУЛЬТЕТ АЕРОНАВІГАЦІЇ, ЕЛЕКТРОНІКИ ТА ТЕЛЕКОМУНІКАЦІЙ**

**КАФЕДРА АВІАЦІЙНОЇ АНГЛІЙСЬКОЇ МОВИ**

**ЗАТВЕРДЖУЮ**

Зав. кафедри \_\_\_\_\_ Наталія ПАЗІЮРА

(підпис)

(ПІБ)

« \_\_\_\_\_ » \_\_\_\_\_ 20\_\_ р.

**ЕКЗАМЕНАЦІЙНИЙ БІЛЕТ №8**

Дисципліна «Фахова іноземна мова»

Спеціальність: 151 «Автоматизація та комп'ютерно-інтегровані технології»

**1. Прочитати текст та відповісти на питання.**

**Electric charge**

Electric charge is a fundamental property of matter. Matter is made up of electrons, neutrons, and protons. Electrons have a negative electric charge, while protons have a positive electric charge; neutrons have no electric charge. These tiny particles are the building blocks of atoms. An atom has a net positive electric charge when it loses one of its electrons and a net negative electric charge when it gains an extra electron. On the other hand, magnetic charges do not exist. Magnetic fields are generated solely by moving electric charges. An example of the relationship between electricity and magnetism is the motor. In a motor, a voltage is applied across the terminals of a coil of wire. The voltage causes the electrons in the wire to move, which in turn generates a current. This current results in a magnetic field, which interacts with permanent magnets attached to the core of the motor, causing it to move. The most significant relationship between electricity and magnetism is light, which is known to physicists as an electromagnetic wave.

1. What is matter made up of?
2. What tiny particles are the building parts of an atom?
3. How can the charge of an atom be changed?
4. How are magnetic fields generated?
5. What is the most significant relationship between electricity and magnetism?

**2. Виконати граматично-лексичне завдання.**

1. We can't come right now because we (to watch) TV.  
A) were watching; B) will be watching; C) are watching; D) have watched.
2. Kristine (never to be) to an opera before last night.  
A) haven't been; B) wasn't; C) had never been; D) wouldn't be.
3. We (to travel) for a week when the car broke down.  
A) travelled; B) were travelling; C) have travelled; D) would travel.
4. I (to finish) my work. I am free now.  
A) finished; B) have finished; C) will have finished; D) would finish.
5. At 7 o'clock tomorrow we (to have) barbecue, you are welcome to join us.  
A) are having; B) have; C) would have; D) will have.

**3. Усна бесіда за темою: "The beginning of the computer age. John von Newman is the father of modern computers".**

Затверджено на засіданні кафедри

Протокол № \_\_\_\_ від „ \_\_\_\_ ” \_\_\_\_\_ 20 \_\_\_\_ року

Викладач \_\_\_\_\_

(підпис)

(П.І.Б)



**НАЦІОНАЛЬНИЙ АВІАЦІЙНИЙ УНІВЕРСИТЕТ**  
**ФАКУЛЬТЕТ АЕРОНАВІГАЦІЇ, ЕЛЕКТРОНІКИ ТА ТЕЛЕКОМУНІКАЦІЙ**

**КАФЕДРА АВІАЦІЙНОЇ АНГЛІЙСЬКОЇ МОВИ**

**ЗАТВЕРДЖУЮ**

Зав. кафедри \_\_\_\_\_ Наталія ПАЗІЮРА

(підпис)

(ПІБ)

« \_\_\_\_\_ » \_\_\_\_\_ 20\_\_ р.

**ЕКЗАМЕНАЦІЙНИЙ БІЛЕТ №8**

Дисципліна «Фахова іноземна мова»

Спеціальність:151 «Автоматизація та комп'ютерно-інтегровані технології»

**1. Прочитати текст та відповісти на питання.**

**Electric circuits**

The four main parts of a circuit are the source (battery), load (light bulb), control devices (switch), and connectors (wires). A closed circuit has a complete path for the current to flow. An open circuit doesn't, which means that it's not functional. Parallel circuits are like the smaller blood vessels that branch off from an artery and then connect to a vein to return blood to the heart. In a parallel circuit, electricity has more than one path on which to travel. For example, two bulbs are powered by a battery in a parallel circuit design. In this case, because the electricity can flow in more than one path, if one of the bulbs blew out, the other bulb would still be able to light up because the flow of electricity to the broken bulb would not stop the flow of electricity to the good bulb. In the same way, if one bulb were unscrewed, it would not prevent the other bulb from lighting up. In a series circuit, electricity has only one path on which to travel.

1. What are the four main parts of a circuit?
2. What is the difference between open and closed circuits?
3. How does a parallel circuit function?
4. What is the difference between parallel and series circuits?
5. Can you give an example of a series circuit?

## 2. Виконати граматично-лексичне завдання.

1. We (to cover) a long distance by the time you are there.  
A) are covering; B) have covered; C) were covering; D) will have covered.
2. When you called I (to take) a shower?  
A) took; B) have taken; C) was taking; D) would take.
3. John always (to smile) a lot.  
A) smiled; B) smiles; C) was smiling; D) have smiled.
4. By 2025 you (to live) in this country for 5 years.  
A) will have lived; B) were living; C) would live; D) live.
5. I think, the boss (not to be) very happy now.  
A) have not; B) wasn't; C) isn't; D) wouldn't be.

## 3. Усна бесіда за темою: “ Classification of digital computers. Types of computer networks”.

Затверджено на засіданні кафедри

Протокол № \_\_\_\_\_ від „\_\_\_\_\_” \_\_\_\_\_ 20\_\_\_\_ року

Викладач \_\_\_\_\_

(підпис)

(П.І.Б)

**НАЦІОНАЛЬНИЙ АВІАЦІЙНИЙ УНІВЕРСИТЕТ**  
**ФАКУЛЬТЕТ АЕРОНАВІГАЦІЇ, ЕЛЕКТРОНІКИ ТА ТЕЛЕКОМУНІКАЦІЙ**

**КАФЕДРА АВІАЦІЙНОЇ АНГЛІЙСЬКОЇ МОВИ**

**ЗАТВЕРДЖУЮ**

Зав. кафедри \_\_\_\_\_ Наталія ПАЗІЮРА

(підпис)

(ПІБ)

« \_\_\_\_\_ » \_\_\_\_\_ 20\_\_ р.

**ЕКЗАМЕНАЦІЙНИЙ БІЛЕТ №9**

Дисципліна «Фахова іноземна мова»

Спеціальність: 151 «Автоматизація та комп'ютерно-інтегровані технології»

**1. Прочитати текст та відповісти на питання.**

**Parts of an electric circuit**

An electric circuit consists of the various conductors that lead from the negative to the positive terminal of a source of electricity. A short circuit is a low-resistance path, usually made unintentionally, that bypasses part of a circuit. This can happen when two bare wires in a circuit touch each other. The part of the circuit bypassed by the short circuit ceases to function, and a large amount of current could start to flow. This can generate a lot of heat in the wires and cause a fire. As a safety measure, fuses and circuit breakers automatically open the circuit when there is an excessive current. In a series circuit, electricity has only one path on which to travel. For example, two bulbs are powered by a battery in a series circuit design. Electricity flows from the battery to each bulb, one at a time, in the order, they are wired to the circuit. In this case, because the electricity can only flow in one path, if one of the bulbs blew out, the other bulb would not be able to light up because the flow of electric current would have been interrupted. In the

same way, if one bulb was unscrewed, the current flow to both bulbs would be interrupted.

1. What is an electric circuit consist of?
2. What is a short circuit?
3. What are safety measures for electric circuits?
4. How do they function?
5. Why the bulb in a parallel connection would not be able to light if the other blew out?

## 2. Виконати граматично-лексичне завдання.

1. She can't answer the phone, at the moment she (to cook) dinner.  
A). cooks; B) was cooking; C) had cooked; D) is cooking.
2. I didn't want to go to the cinema yesterday, because I (already to watch) the film.  
A). have watched; B) watched; C) had watched; D) is watching.
3. When it was 3:00 p.m. I (to wait) for Bob for two hours.  
A). would have waited; B) waited; C) have waited; D) have been waiting.
4. We (to live) in Kyiv since 1995. And I still like it a lot.  
A) have lived; B) were living; C) lived; D) would have lived.
5. At 7 o'clock tomorrow we (to have) barbecue, you are welcome to join.  
A). are having; B) will have; C) were having; D) have had.

## 3. Усна бесіда за темою: "Personal computers. Web page".

Затверджено на засіданні кафедри

Протокол № \_\_\_\_\_ від „\_\_\_\_\_” \_\_\_\_\_ 20\_\_\_\_ року

Викладач \_\_\_\_\_

(підпис)

(П.І.Б)

**НАЦІОНАЛЬНИЙ АВІАЦІЙНИЙ УНІВЕРСИТЕТ**  
**ФАКУЛЬТЕТ АЕРОНАВІГАЦІЇ, ЕЛЕКТРОНІКИ ТА ТЕЛЕКОМУНІКАЦІЙ**

**КАФЕДРА АВІАЦІЙНОЇ АНГЛІЙСЬКОЇ МОВИ**

**ЗАТВЕРДЖУЮ**

Зав. кафедри \_\_\_\_\_ Наталія ПАЗІЮРА

(підпис)

(ПІБ)

« \_\_\_\_\_ » \_\_\_\_\_ 20\_\_ р.

**ЕКЗАМЕНАЦІЙНИЙ БІЛЕТ №10**

Дисципліна «Фахова іноземна мова»

Спеціальність:151 «Автоматизація та комп'ютерно-інтегровані технології»

**1. Прочитати текст та відповісти на питання.**

**Semiconductors**

A semiconductor is a material having a resistivity in the range between conductors and insulators and having a negative temperature coefficient. The conductivity increases not only with temperature but is also affected considerably by the presence of impurities in the crystal lattice. Types of semiconductor material commonly used are elements falling into group IV of the Periodic Table, such as silicon or germanium. The donor and acceptor impurities are groups V and group III elements, respectively, differing in valency by only one electron. Certain compounds such as gallium arsenide (Symbol: GaAs) which has a total of eight valence electrons, also make excellent semiconductors. GaAs is a direct-gap III-V semiconductor that has a relatively large bandgap and high carrier mobility. The relatively high carrier mobility allows the semiconductor to be used for high-speed applications and because of the large energy gap it has a high resistivity that allows easier isolation between different areas of the crystal.

1. What is a semiconductor?
2. What are the conditions for electrical conductivity increasing?
3. What materials are commonly used as semiconductors?
4. Why are the elements of groups III and V of the Periodic Table are used as donor and acceptor impurities?
5. Why does gallium arsenide (Symbol: GaAs) make excellent semiconductors?

## 2. Виконати граматично-лексичне завдання.

1. I (to finish) my work by tomorrow.  
A). will have finished; B) have had finished; C) would have; D) should have.
2. I (to drive) at 4:00 p.m. yesterday.  
A). have been driving; B) was driving; C) will be; D) had driven.
3. I (to go) to the office every day.  
A) was going; B) will be; C) go; D) have gone.
4. I (to work) on the project for a month when you join me.  
A). had worked; B) was working; C) will be working; D) would work.
5. I think I (to stay) at home this evening.  
A). Will stay; B) would stay; C) is staying; D) would be staying.

## 3. Усна бесіда за темою: “Prominent figures in the field of computer science?”

Затверджено на засіданні кафедри

Протокол № \_\_\_\_\_ від „\_\_\_\_\_” \_\_\_\_\_ 20\_\_\_\_ року

Викладач \_\_\_\_\_

(підпис)

(П.І.Б)

**НАЦІОНАЛЬНИЙ АВІАЦІЙНИЙ УНІВЕРСИТЕТ**  
**ФАКУЛЬТЕТ АЕРОНАВІГАЦІЇ, ЕЛЕКТРОНІКИ ТА ТЕЛЕКОМУНІКАЦІЙ**

**КАФЕДРА АВІАЦІЙНОЇ АНГЛІЙСЬКОЇ МОВИ**

**ЗАТВЕРДЖУЮ**

Зав. кафедри \_\_\_\_\_ Наталія ПАЗІЮРА

(підпис)

(ПІБ)

« \_\_\_\_\_ » \_\_\_\_\_ 20\_\_ р.

**ЕКЗАМЕНАЦІЙНИЙ БІЛЕТ №11**

Дисципліна «Фахова іноземна мова»

Спеціальність:151 «Автоматизація та комп'ютерно-інтегровані технології»

**1. Прочитати текст та відповісти на питання.**

**Capacitors**

A capacitor is a passive two-terminal electrical component used to temporarily store electrical energy in an electric field. The forms of practical capacitors vary widely, but most contain at least two electrical conductors (plates) separated by a dielectric. The conductors can be thin films, foils or sintered beads of metal or conductive electrolyte, etc. The nonconducting dielectric acts to increase the capacitor's charge capacity. Materials commonly used as dielectrics include glass, ceramic, plastic film, paper, mica, and oxide layers. Capacitors are widely used as parts of electrical circuits in many common electrical devices. Unlike a resistor, an ideal capacitor does not dissipate energy. Instead, a capacitor stores energy in the form of an electrostatic field between its plates. Capacitors are widely used in electronic circuits for blocking direct current while allowing alternating current to pass. In analogue filter networks, they smooth the output of power supplies. In resonant circuits, they tune radios to particular frequencies. In electric power transmission systems, they stabilize voltage and power flow.

1. What is a capacitor?
2. What do all capacitors have in common?
3. What are the different forms of capacitors?
4. How does the nonconducting dielectric act?
5. In what way are capacitors used in electronic circuits?

## 2. Виконати граматично-лексичне завдання.

1. They (to seat) at the table now, disputing about something.  
A) sit; B) are sitting; C) were sitting; D) have sat.
2. She (to make) coffee before I arrived.  
A) could make; B) have been making; C) made; D) was making.
3. I (to write) a letter for 2 hours before he came.  
A) Was writing; B) wrote; C) have written; D) will write.
4. He (to be) to England twice.  
A) have been; B) was; C) will be; D) had been.
5. I (to wait) for you at 9 o'clock tomorrow.  
A) Will be waiting; B) would be waiting; C) waited; D) have waited.

## 3. Усна бесіда за темою: “Hardware tools. CPU. Input devices?”

Затверджено на засіданні кафедри

Протокол № \_\_\_\_\_ від „\_\_\_\_\_” \_\_\_\_\_ 20\_\_\_\_ року

Викладач \_\_\_\_\_

(підпис)

(П.І.Б)



**НАЦІОНАЛЬНИЙ АВІАЦІЙНИЙ УНІВЕРСИТЕТ**  
**ФАКУЛЬТЕТ АЕРОНАВІГАЦІЇ, ЕЛЕКТРОНІКИ ТА ТЕЛЕКОМУНІКАЦІЙ**

**КАФЕДРА АВІАЦІЙНОЇ АНГЛІЙСЬКОЇ МОВИ**

**ЗАТВЕРДЖУЮ**

Зав. кафедри \_\_\_\_\_ Наталія ПАЗІЮРА

(підпис)

(ПІБ)

« \_\_\_\_\_ » \_\_\_\_\_ 20\_\_ р.

**ЕКЗАМЕНАЦІЙНИЙ БІЛЕТ №12**

Дисципліна «Фахова іноземна мова»

Спеціальність:151 «Автоматизація та комп'ютерно-інтегровані технології»

**1. Прочитати текст та відповісти на питання.**

**A remote control**

In consumer electronics, a remote control is a component of an electronic device such as a television set, DVD player, or other home appliance, used to operate the device wirelessly from a short distance. The remote control is a convenience feature for the consumer. Commonly, remote controls are Consumer IR devices that send digitally-coded pulses of infrared radiation to control functions such as power, volume, tuning, temperature set point, fan speed, or other features. Remote controls for these devices are usually small wireless handheld objects with an array of buttons for adjusting various settings such as television channel, track number, and volume. Earlier remote controls in 1973 used ultrasonic tones. The remote control code, and thus the required remote-control device, is usually specific to a product line, but there are universal remotes, which emulate the remote control made for most major brand devices. Remote control has continually evolved and advanced over recent years to include Bluetooth connectivity, motion sensor-enabled capabilities and voice control.

1. What is a remote control in consumer electronics?
2. How does a remote control work?
3. How does a remote control look like?
4. Are there universal remote controls exist?
5. How do modern remote controls differ from earlier ones?

## 2. Виконати граматично-лексичне завдання.

1. Currently I (to work) on a very exciting project.  
A) work; B) have worked; C) would working; D) is working.
2. By the time Mary got to the office, her boss (already to leave).  
A) left; B) was leaving; C) has left; D) had left.
3. When Jane came home, Martin was very tired, because he (to work) hard all day.  
A) has been working; B) worked; C) had worked; D) was working.
4. I don't want to go to the café, I (just to eat).  
A) ate; B) has eaten; C) had eaten; D) was eating.
5. Tomorrow at 5 o'clock he (to play) football.  
B) played; B) had been playing; C) had played ; D) was playing.

## 3. Усна бесіда за темою: “ Computer memory. Software. Operating System.”

Затверджено на засіданні кафедри

Протокол № \_\_\_\_\_ від „\_\_\_\_\_” \_\_\_\_\_ 20\_\_\_\_ року

Викладач \_\_\_\_\_

(підпис)

(П.І.Б)

**НАЦІОНАЛЬНИЙ АВІАЦІЙНИЙ УНІВЕРСИТЕТ**  
**ФАКУЛЬТЕТ АЕРОНАВІГАЦІЇ, ЕЛЕКТРОНІКИ ТА ТЕЛЕКОМУНІКАЦІЙ**

**КАФЕДРА АВІАЦІЙНОЇ АНГЛІЙСЬКОЇ МОВИ**

**ЗАТВЕРДЖУЮ**

Зав. кафедри \_\_\_\_\_ Наталія ПАЗІЮРА

(підпис)

(ПІБ)

« \_\_\_\_\_ » \_\_\_\_\_ 20\_\_ р.

**ЕКЗАМЕНАЦІЙНИЙ БІЛЕТ №13**

Дисципліна «Фахова іноземна мова»

Спеціальність:151 «Автоматизація та комп'ютерно-інтегровані технології»

**1. Прочитати текст та відповісти на питання.**

**An aircraft**

An aircraft is a device that is used for or is intended to be used for, flight in the air. Major categories of aircraft are aeroplanes, rotorcraft, gliders, and lighter-than-air vehicles. Each of these may be divided further by major distinguishing features of the aircraft, such as airships and balloons. Both are lighter-than-air aircraft but have differentiating features and are operated differently.

The concentration of this text is on the airframe of aircraft; specifically, the fuselage, booms, nacelles, cowlings, fairings, airfoil surfaces, and landing gear. Also included are the various accessories and controls that accompany these structures. Note that the rotors of a helicopter are considered part of the airframe since they are actually rotating wings. By contrast, propellers and rotating airfoils of an engine on an airplane are not considered part of the airframe. The most common aircraft is the fixed-wing aircraft. As the name implies, the wings on this type of flying machine are attached to the fuselage and are not intended to move independently in a fashion that results in the creation of lift. One, two, or three sets

of wings have all been successfully utilized. Rotary-wing aircraft such as helicopters are also widespread. Glider airframes are very similar to fixed-wing aircraft. Unless otherwise noted, maintenance practices described for fixed-wing aircraft also apply to gliders.

1. What is an aircraft?
2. What major categories of aircraft do you know?
3. Are propellers and rotating airfoils considered as parts of the airframe?
4. What does the airframe of aircraft consist of?
5. What is the difference between a fixed-wing aircraft and a rotary-wing aircraft?

## 2. Виконати граматично-лексичне завдання.

1. Nowadays the crisis (to progress)  
A) progress; B) progresses; C) was progressing; D) progressed.
2. I called Jim too late, he (already to leave).  
A) Has left; B) had left; C) was leaving; D) leaves.
3. We (to travel) for a week when the car broke down.  
A) Were travelling; B) travelled; C) have travelled; D) had travelled.
4. Mary (to love) chocolate since she was a little girl.  
A) loves; B) lived; C) has loved; D) will love.
5. This time tomorrow we (to sit) on the beach  
A) sat; B) are sitting; C) would be; D) will be.

## 3. Усна бесіда за темою: “Computer viruses and malware. Antivirus programs”.

Затверджено на засіданні кафедри

Протокол № \_\_\_\_\_ від „\_\_\_\_\_” \_\_\_\_\_ 20\_\_\_\_ року

Викладач \_\_\_\_\_

(підпис)

(П.І.Б)

**НАЦІОНАЛЬНИЙ АВІАЦІЙНИЙ УНІВЕРСИТЕТ**  
**ФАКУЛЬТЕТ АЕРОНАВІГАЦІЇ, ЕЛЕКТРОНІКИ ТА ТЕЛЕКОМУНІКАЦІЙ**

**КАФЕДРА АВІАЦІЙНОЇ АНГЛІЙСЬКОЇ МОВИ**

**ЗАТВЕРДЖУЮ**

Зав. кафедри \_\_\_\_\_ Наталія ПАЗІЮРА

(підпис)

(ПІБ)

« \_\_\_\_\_ » \_\_\_\_\_ 20\_\_ р.

**ЕКЗАМЕНАЦІЙНИЙ БІЛЕТ №14**

Дисципліна «Фахова іноземна мова»

Спеціальність:151 «Автоматизація та комп'ютерно-інтегровані технології»

**1. Прочитати текст та відповісти на питання.**

**A transistor**

The invention of transistors triggered the rapid growth of the electronics industry. Before transistors, electronic circuits were large, bulky and unreliable, they consumed considerable power (energy) and therefore generated too much heat, which contributed to the deterioration of other circuit parts and materials, such as resistors, capacitors and insulation. With transistors, circuits became much smaller, more efficient in the use of energy, and far more reliable. The higher reliability of the transistor circuits compared to vacuum tube equivalents is an extremely important advantage. The techniques used to manufacture transistors led to the development that made it possible to mass-produce very small and highly reliable electronics circuits commonly known as integrated circuits (ICs). ICs have diodes, transistors, resistors and all inter-connecting leads formed on a single piece of semiconductor material.

1. What are the effects of a transistor invention?

2. How can electronic circuits before transistors invention be characterised?
3. Is there any connection between integrated circuits and transistors?
4. What do you know about semiconductors?
5. Where can we find transistors nowadays?

## 2. Виконати граматично-лексичне завдання.

1. I (to finish) my work by tomorrow.  
A). will have finished; B) have had finished; C) would have; D) should have.
2. I (to drive) at 4:00 p.m. yesterday.  
A). have been driving; B) was driving; C) will be; D) had driven.
3. I (to go) to the office every day.  
A) was going; B) will be; C) go; D) have gone.
4. I (to work) on the project for a month when you join me.  
A). had worked; B) was working; C) will be working; D) would work.
5. I think I (to stay) at home this evening.  
Will stay; B) would stay; C) is staying; D) would be staying.

## 3. Усна бесіда за темою: “Cloud technologies, their advantages and disadvantages”.

Затверджено на засіданні кафедри

Протокол № \_\_\_\_\_ від „\_\_\_\_\_” \_\_\_\_\_ 20\_\_\_\_ року

Викладач \_\_\_\_\_

(підпис)

(П.І.Б)

**НАЦІОНАЛЬНИЙ АВІАЦІЙНИЙ УНІВЕРСИТЕТ**  
**ФАКУЛЬТЕТ АЕРОНАВІГАЦІЇ, ЕЛЕКТРОНІКИ ТА ТЕЛЕКОМУНІКАЦІЙ**

**КАФЕДРА АВІАЦІЙНОЇ АНГЛІЙСЬКОЇ МОВИ**

**ЗАТВЕРДЖУЮ**

Зав. кафедри \_\_\_\_\_ Наталія ПАЗІЮРА

(підпис)

(ПІБ)

« \_\_\_\_\_ » \_\_\_\_\_ 20\_\_ р.

**ЕКЗАМЕНАЦІЙНИЙ БІЛЕТ №15**

Дисципліна «Фахова іноземна мова»

Спеціальність: 151 «Автоматизація та комп'ютерно-інтегровані технології»

**1. Прочитати текст та відповісти на питання.**

**Magnetism**

The most familiar form of the physical phenomenon called magnetism is the ability of certain objects to attract iron. Such objects are called magnets. Magnetism is also associated with electric currents. Magnets are widely used. All electric motors (and the generators that provide power for the motors) contain magnets, as do telephones and loudspeakers. The magnetic compass is a device used for finding direction. The earth itself is a huge magnet. A magnetic field consists of imaginary lines of flux coming from moving or spinning electrically charged particles. Examples include the spin of a proton and the motion of electrons through a wire in an electric circuit. When two magnets or magnetic objects are close to each other, there is a force that attracts the poles together. Magnets also strongly attract ferromagnetic materials such as iron, nickel and cobalt. When two magnetic objects have like poles facing each other, the magnetic force pushes them apart. Magnets can also weakly repel

diamagnetic materials. Magnetism and electricity are closely related phenomena.

1. What is the most familiar form of the physical phenomenon called magnetism?
2. How is magnetism connected with electric currents?
3. What is a magnetic field consists of?
4. What happens when two magnets or magnetic objects are close to each other?
5. Are magnetism and electricity related?

## 2. Виконати граматично-лексичне завдання.

1. She can't answer the phone, at the moment she (to cook) dinner.  
A). cooks; B) was cooking; C) had cooked; D) is cooking.
3. I didn't want to go to the cinema yesterday, because I (already to watch) the film.  
A). have watched; B) watched; C) had watched; D) is watching.
3. When it was 3:00 p.m. I (to wait) for Bob for two hours.  
A). would have waited; B) waited; C) have waited; D) have been waiting.
4. We (to live) in Kyiv since 1995. And I still like it a lot.  
A) have lived; B) were living; C) lived; D) would have lived.
5. At 7 o'clock tomorrow we (to have) barbecue, you are welcome to join.  
A). are having; B) will have; C) were having; D) have had.

## 3. Усна бесіда за темою: “Professions related to the creation of software in the field of automation and instrumentation”.

Затверджено на засіданні кафедри

Протокол № \_\_\_\_\_ від „\_\_\_\_\_” \_\_\_\_\_ 20\_\_\_\_ року

Викладач \_\_\_\_\_

(підпис)

(П.І.Б)