ЗАВДАННЯ ДЛЯ КОНТРОЛЬНИХ РОБІТ

ВАРІАНТ 1

I. Перекладіть текст українською мовою

NEWTON'S GREAT DISCOVERY

Newton's great discovery was the law of decomposition of light. The scientist proved that the white light of the sun is compounded of rays of light of all the colours of the rainbow.

Among the things he discovered in those productive years was the Law of Universal Gravitation.

Curiously enough, Newton published nothing on these three highly significant discoveries; he began writing his "Mathematical Principles of Natural Philosophy" much later, under pressure of his friends. The fundamental principle of the book is that "every particle of matter is attracted by every other particle of matter with a force inversely proportional to the square of their distances apart". There were also given the laws governing the problems of bodies colliding with each other.

Newton applied the principle of gravitation to prove that the power which guides the moon around the earth and the planets around the sun is the force of gravity. The fact that the earth is flattening at the poles because of rotation was explained, and the amount of flattening was calculated. Another application of the law of universal gravitation was Newton's exploration of the tides.

Most highly honored by his countrymen (he was elected President of the Royal Society in 1703), Newton, was very modest, about himself he wrote "I may appear to the world, but to myself I seem to have been only like a boy on the seashore, and diverting myself in now and then finding a smoother pebble or a prettier shell than ordinary, while the great ocean of truth lay all undiscovered before me".

II. Дайте відповіді на запитання до тексту.

1. What was Newton's great discovery?
2. What did the scientist prove?
3. Which law did he discover in those productive years?
4. What book did he write?
5. What is the fundamental principle of that book?
6. Where did he apply the principle of gravitation?

7. Why is the earth flattened at the poles?
8. What was calculated?
9. What was another application of the law of universal qravitation?

III. Прочитайте і перекладіть три основні закони Ньютона. Сформулюйте їх українською мовою.

1. The first law of motion: "A body at rest or in motion will remain at rest or in motion unless some external force is applied to it".
2. The second law: "When a body is accelerated, the magnitude of the force causing the acceleration is equal to the body and the magnitude of the acceleration".
3. The third law: "To every action there is an equal and apposite reaction".

IV. Доберіть англійські еквіваленти до поданих нижче виразів і слів.

Відкривати, формулювати, закон, закон всесвітнього тяжіння, біноміальна теорема, розпад, світло, відкриття, кольори райдуги, визначний, основний принцип, сила тяжіння, земля сплюснута, дослідження припливів (відпливів).

V. Поставте загальні запитання до 1–5 речень тексту.

VI. Поставте вирази у присвійному відмінку. Перекладіть вирази.

Перший закон Ньютона, сестрина книга, батько мого друга, ім'я її чоловіка, будинок моїх батьків, дитина наших друзів, машина мого товариша.

VII. Поставте наступні речення в заперечну та питальну форму.

1. We often meet this engineer here.
2. You go to the factory every day.
3. I read newspapers every morning.
4. He always gives me books to read.
5. She often comes here.

ВАРІАНТ 2

I. Перекладіть текст українською мовою.

THE INVENTION OF THE ELECTRIC BATTERY

In the 18th century Luigi Galvani, an Italian scientist while experimenting with an electric mashine, found that the legs of a dead frog were set to work by "an electric shock".

He determited to see if lightning would have the same effect on a frog's muscles; but while he was fixing the frog by a copper skewer to the iron railang of his balcony, he observed the twitching again the moment the copper touched of the frog and called it "animal electricity".

Thus Galvani made a great discovery. Yet his explanation of the produced effect was not exact. He thought that the electricity that caused this movement came from the nerves and muscles of the dead frog.

Alessandro Volta gave his own explanation of this phenomenon. He argued that it was produced by the contact of two different metals, and he proved that he was right. He placed a disk of copper on the table, and on top of that he placed a piece of cloth which had been soaked in the solution of sulphuric acid and water. On the piece of cloth he placed a disk of zinc again, and so on, in that order, until he had built up a pile. It was a pile of pairs of zinc and copper disks, each pair having a moist piece of cloth between. Then he fastened a wire to the zinc disk at the bottom of the pile.

Volta put the free ends of the two wires together, then separated then. As they were drawn apart, the electric current which had been set up in the pile caused a spark at the ends of the wires. Thus in 1800 was born the idea that chenimal action can produce electriciti and a device for converting chenimal energy into electrical energy into electrical energy was invented.

The describet battery now is called a Voltaic pile. Each of the pair of zinc and copper with a moist piece of cloth is known as a Voltaic cell.

II. Дайте відповіді на запитання до тексту.

1. What did Luigi Galvani find while experimenting with an electric machine?
2. What was Galvani's explanation of the produced effect exact?
3. What was Alessandro Volta's explanation of this phenomenon?
4. What solution did Volta use in the device?

5. What did the pile look like?
6. What did the electric current cause?
7. What kind of idea was born in 1800?
8. What device was invented?
9. How is the described battery called now?

III. Перекладіть подані нижче речення англійською мовою.

1. Він думав, що електричний струм, який спричиняє цей рух, йшов від нервів і мускулів мертвої жаби.

2. Але в дійсності це було через те, що різні метали і рідина в м'язовій тканині жаби вступали в хімічну реакцію.

3. Коли їх роз'єднували, електричний струм утворював іскру.

4. Гальвані заявив, що електрика існувала в тканинах жаби і назвав її "тваринною електрикою".

IV. Перекладіть слова та вирази українською мовою

An electric shock, frog's muscles, the tissues of the frog, discovery explanation, the contact of two different metals, to prove disk of copper, a piece of cloth, the solution, a pile, the electric current, a spark, chemical action, electrical energy.

V. Поставте спеціальні запитання до 1–5 речень.

VI. Поставте подані іменники у множині.

A leaf, a man, a child, a wife, a house, a fox, a woman, a ship, a sheep, a foot, a bus, a lady, an energy, a piece.

VII. Поставте речення в питальній та заперечній формах.

1. He was in Kiev last week.
2. My friend wrote to me very often last year.
3. They were at their office yesterday morning.
4. Our students read a lot of English books last year.
5. He took his son on Monday evening.

ВАРІАНТ 3

I. Перекладіть текст українською мовою.

MICHAEL FARADAY
(1791–1867)

Michael Faraday, English experimental physicist, was the son of a poor London blacksmith. After very little schooling he was apprenticed. The boy worked hard all day and studied at night.

One day a man on entering the shop found the boy at work binding an encyclopaedia, and at the same time studying hard the article in it on electricity.

The man was surprised to see a boy so interested in a subject of such difficulty, and questioned him. He found out that Faraday, working late at night, had already been making experiments of his own, though he was too poor to possess anything but a homemade battery! The visitor was surprised and gave him four tickets for the lectures which sir Humphry Davy was then delivering at the Royal Institution. The boy was as much delighted as if someone had given him a fortune. He went to the lectures and made notes of what he heard. At the end of the lectures he came up to the great scientist and showed him his notes. Davy was surprised. Then he remembered how poor he himself had been and how he had to struggle to educate himself.

Faraday told him that wanted to become a scientist. Later Davy made Faraday his assistant and valet, he helped Faraday in his education and took him to the Continent. Thus begam his scientific carrer.

Faraday had many notable discoveries to his credit. Among his most important works are the concept of the magnetic field and the magnetic "lines of force", production of new kinds of optical glass, in electricity – researches on electrolysis and the discovery of the rotation plane of polarized light in a magnetic field.

It was Michael Faraday, who produced the first mechanical motion by means of a permanent magnet and an electric current. It was he who discovered that when a wire carrying a current is placed in the field of a magnet, a mechanical force is exerted on the wire. This is the principle upon which the modern electric motor is based. Like real great scientist Faraday loved his work more that honours, he refused the presidency of both the Royal Inctitute and the Royal Society of London and also refused to be knighted.

II. Дайте відповіді на запитання до тексту.

1. Who was Michael Faraday?
2. What did Michael Faraday want to be?
3. Who helped Faraday in his education?
4. What are the most important Faraday's works in magnetism/
5. What are the most important works in electricity?
6. Who produced the first mechanical motion by means of permanent magnet and an electric current?
7. What did he discover?
8. What did Faraday love more his work or honours?
9. What did he refuse of?

III. Перекладіть подані речення українською мовою.

1. The man was surprised to see the boy so interested in the subject of such difficuity.
2. Faraday working late at night, had already been making experiments of his own.
3. The visitor gave him four tickets for the lectures, which sir Humphry Davy was delivering at the Royal Institution.
4. He went to the lectures and made notes of what he heard.
5. At the end of the lectures he came up to the great scientist and showed him his notes.

IV. Перекладіть подані нижче вирази і слова українською мовою.

Experimental physicist, to find out, to deliver a lecture, scientist, a notable discovery, the concept, of the magnetic field, optical glass, the research, electromagnetism, to observe, an electric current, mechanical motion, modern electric motor, to honor.

V. Поставте питання до кожного члена речення.

The visitor gave him four tickets for the lectures to the Royal Institution.

VI. Утворіть вищий та найвищий ступені порівняння поданих нижче.

Good, beautiful, bad, comfortable, many, fine, bad, interesting, poor.

VII. Перекладіть речення англійською мовою. Вкажіть часову форму дієслова-присудка.

1. Я збираюся їй подзвонити ввечері.
2. Розмова буде дуже цікавою.
3. Я про це не забуду.
4. Ти завтра збираєшся їхати додому?
5. Коли вона повернеться з роботи?

ВАРІАНТ 4

I. Перекладіть текст українською мовою.

ATOMIC ENERGY

The atoms had always been regarded as the smallest in divisible units of which matter was composed. Further research showed that the atom was made up of smaller parts and that its structure was very comlex. It resembler the solar system, with a central nusleus and a number of electrons, very much smaller that the nucleus and revolving around it. It was shown by Rutherford that the atom could be bombarded so that the electrons could be thrown off, and nucleus itself could be broken. In the process of splitting the nucleus, matter was converted into energy which for the scientists of the nineteenth century seemed to be impossible.

The splitting of the atom has opened to man a new and enormous source of energy. The most important results have been obtained by splitting the atom of uranium. When a uranium nucleus is struck by a neutron, it splits into two nuclei of a lighter element. During the splitting of a nucleus of uranium with atomic weight of 235, two or three neutrons fly off. These neutrons strike the nearest uranium atoms and split them throwing out three or four more neutrons: a chain reaction sets in and grows, releasing an enormous quantity of energy.

At present we are only at the beginning of the application of atomic energy and all its possible uses for peaceful purposes in power engineering, medicine and agriculture.

II. Дайте відповіді на запитання до тексту.

1. What had the atoms always been regarded as?
2. What did further researches show?
3. What did the atom resemble?
4. What was shown by Rutherford?

5. What was the matter converted into in the process of splitting the nucleus?
6. What has the splitting of the atom opened to man?
7. Into what does a uranium nucleus split when it is struck by a neutron?
8. What happens in the process of splitting the atom?
9. Where can we apply the atomic energy?

III. Перекладіть подані нижче речення українською мовою.

1. During his school studies Ernest Rutherford distinguished himself in physics.
2. Later Rutherford went to Cambridge where he continued his scientific researches.
3. Rutherford famous work is "The Scattering of Alpha and Beta Particles of Matter and the Structure of the Atom".
4. This work deals with so-called "atom models", according to which the atom is pictured as composed of a central charge surrounded by a sphere of electrification of equal but opposite charge.

IV. Перекладіть слова та вирази англійською мовою.

Атом, атомна енергія, найменша неподільна частка, матерія, нагадувати щось, сонячна система, ядро, електрони, процес розщеплення ядра, джерело енергії, нейтрони, ланцюгова реакція, незліченна кількість енергії, застосування атомної енергії.

V. Поставте загальні запитання до 1–5 речень тексту.

VI. Перекладіть подані нижче прислівники англійською мовою та утворіть від них ступені порівняння.

Близько, рано, добре, щасливо, мало, погано, правильно, зручно, швидко, повільно.

VII. Поставте дієслово-присудок у формі Past, Present, Future, Indefinite Tense.

Визначте час дієслова-присудка в кожному реченні.

This engineer (to work) at our office.

ВАРІАНТ 5

I. Перекладіть текст українською мовою.

EINSTEIN'S FUNDAMENTAL DISCOVERY

Einstein's discovery in physics traces back to 1905, with the appearance in a german journal of his article "on the electrodynamics of moving bodies". In this paper Einstein set forth the special theory of relativity, challenging man's existing concepts of time and space, of matter and energy. The foundations for the theory were laid down in two basic principles. The first was the principle of relativity: any motion is relative, a familiar illustration of the principle is a moving train or a ship. A person sitting in a train with darkened windows would have no idea of speed or direction, or perhaps even that the train was moving at all.

On a greater scale, the movement of the earth could not be detected if there were no heavenly bodies for comparisons. Nowhere on the earth or in the universe is there anything absolutely at rest, motion is the natural state of all things, and every body's movement is relative to that of another.

Einstein's second hypothesis was that the velocity of light is independent of the motion of its source. The speed of light, 186,000 miles per second (300,000 km. per sec.), is always the same, anywhere in the universe regardless of place, time, or direction. Light travells in a moving train, for instance, at exactly the same speed as it does outside the train. No force can make it go faster or slower.

The most difficult of all einsteinian concepts to comprehend is the relativity of time. Applying the theory to the universe, an event on a distant star, say an explosion, didn't occur on the star at the same time as it was seen on the earth. The star seen today is actually the star as it appeared long ago. It may have even ceased to exist. Neither time nor space can exist without each other and they are, therefore, interdependent.

II. Дайте відповіді на запитання до тексту.

1. When did Einstein discover his Special Theory of Relativity?
2. What was the fist principle of the theory?
3. Is there anything absolutely at rest on the earth?
4. What is the natural state of all things?
5. What was the second hypothesis of the theory?
6. What is the speed of light?

7. What is the most difficult of all Einsteinian concepts to comprehend?
8. How can we apply this theory to the universe?
9. Why are time and space interdependent?
10. What does Einstein study in the General Theory of Relativity?

III. Перекладіть українською мовою наступні речення.

1. Motion is the natural state of all things.
2. Everybody's movement is relative to that of another.
3. No force can make it go faster or slower.
4. The most difficult of all Einsteinian concepts to comprehend is the relativity of time.
5. It explains how the sun and all the stars can go on radiating light and heat for billions of years.
6. Enstein's fame rests primarily upon the theory of relativity.

III. Перекладіть слова та вирази англійською мовою.

Матерія, енергія, рух, швидкість, напрямок, відносний, тіло, стан, в спокої, світло, сила, радіоактивні елементи, гравітаційне поле, магнітне поле.

V. Поставте спеціальні запитання до 1–5 речень тексту.

VI. Перекладіть подані нижче речення англійською мовою, вживаючи модальні дієслова *may, can* та еквівалент *to be able to.*

1. Хто може перекласти це речення?
2. Хто з вас зможе піти в кіно завтра вранці? – Ніхто з нас не зможе.
3. Можна взяти на хвилинку ваш підручник?
4. Я також хотів піти в кіно, але не зміг.
5. Ви зможете обговорити ці питання завтра вранці.

VII. Поставте наступні речення в заперечну та запитальну форми.

1. I am taking the book off the table.
2. He is reading a book now.
3. They are looking at me
4. She is opening the exercise-book.

5. I am closing the door.
6. They are looking at me.

ВАРІАНТ 6

I. Перекладіть текст українською мовою.

I. V. KURCHATOV
(1903 – 1960)

Kurchatov, a highly distinguished Soviet scientist, played a leading part in the development of science of atom. Born in 1903 in Eastern Russia, in the Urals, Kurchatov graduated from the University in 1923 and started research at the Leningrad Physico-Technical Inctitute. From 1925 up to 1933 he carried out experimental and theoretical studies of dielectrics. He was the first to give a mathematical theory of ferro-electrisiti. His researches of this subject were summarized in a book published in 1933. Other work at this time included studies of dielectreic breakdown.

Kurchatov's work in nuclear physics began in 1933, and in 1938 he was made director of nuclear physics research at the Leningrad Istitute, where he and collaborators conducted many researches into nuclear reaction produced by neutrons. His researches also dealed with detailed studies of the scattering and absorption of neutrons in water, paraffin and other moderating media. In 1941 he published a paper surveyingvariors possible ways of developing a chainreacting system based on thermal neutrons fission of heavy elements.

At the Atomic Energy Institute Kurchatov conducted fundamental researches on atomic energy.

In recent years the problems of plasma physics and controlied thermonuclear reactions formed a significant part of Kurchatov's work. The enormous magnetic rap instalation for obtaining and studying high-temperature plasms was constructed. The first Soviet nuclear reactor was also constructed under Kurchatov's guidance and with his direct patricipation.

II. Дайте відповіді на запитання до тексту.
1. When and where was Kurchatov born?
2. Where did he start his research?
3. What did he carried out from 1925 up 1933?
4. What theory was he the first to give?

5. When did Kurchatov's work in nuclear physics begin?
6. What researches did he and his collaborators conduct at the Leningrad Institute?
7. What did he publish in 1941?
8. What did Kurchatov conduct at the Atomic Energy Institute?
9. What formed a significant part of Kurchatov's work in recent years?
10. What was constructed under Kurchatov's guidance and with his direct participation?

III. Перекладіть наступні речення англійською мовою.

1. Курчатов грав основну роль у розвитку науки про атом.
2. Курчатов був директором наукових досліджень в ядерній фізиці в Ленінградському інституті.
3. В останні роки він займався проблемою фізики плазми.
4. Перед побудовою першого реактора була проведена велика експериментальна робота.
5. Курчатов був членом президії Академії Наук.

IV. Перекладіть слова та вирази українською мовою.

A distinguished scientist, science of atom, to research, a ferro-electricity, dielectric breakdown, a nuclear physics, thermal neutron fission, controlled thermo nuclear reaction, magnatic trap installation.

V. Поставте запитання до кожного члена речення.

Kurchatov played a leading part in the development of science of atom.

VI. Замініть модальні дієслова can, may, must відповідними еквівалентами.

1. I can phone you today's evening.
2. You can meet him tomorrow.
3. You may take this book till tomorrow.
4. They must solve this problem how.
5. Must we do this work.
6. He may not answer this question.

VII. Поставте наступні речення в заперечну та запитальну форми.

1. I was having dinner when you rang me up.

2. Your friends were smoking in the corridor when we saw them.
3. We were having our English at 10 in the morning.
4. He will be waiting for you at 7 in the evening.
5. We shall be discussing this question tomorrow morning.

ВАРІАНТ 7

I. Перекладіть текст українською мовою

THOMAS ELVA EDISON

Edison was a thoughtful little boy. He was very inquisitive and always wanted to know how to do things. He was not very strong, and went to school when he was quite a big child. But his teacher thought him very stupid because he asked so many questions. So his mother who was a teacher, took him away from school at the end of two months and taught him at home. With so kind a teacher, he made progress and above all, he learned to think. His mother had some good books and among them an encyclopedia. It was probably from the encyclopedia that he first took an interest in chemistry. He liked to make experiments, so he bought some books, and made a little laboratory it the cellar of his home.

When he was twelve years old, he started to earn his living and be came a newsboy on the train which ran from Port Huron to Detroit. There was a corner in the baggage car where he kept his stocks of newspapers, magazines and candy. To this corner he moved his little laboratory and library of chemical books, and when he was not busy, wen on with his experiments. All went well for two or three years. But when he was in his sixteenth year, one day a phosphorus bottle broke on the floor. It set fire to the baggage car, and the conductor not only put the, boy off the train, but soundly boxed his ear. That was the most unfortunate part of the accident, for as a result Edison gradually lost his hearing, and became almost deaf.

Once he was standing on the platform of the station in Michigan, watching a coming train, when he saw the station agent's little boy on the track right in front of the coming engine. Another moment and the child would have been crushed; but Edison sprang to the track, seized the little one in his arms, and rolled with him to one side, just in time to escape the wheels. To show his gratitude the baby's father offered to teach telegraphy to Edison. Working at telegraphy he at the same time spent all the spare moments in the study ot cnemistry and electricity experimenting he improved telegraph apparatus. About the same time

Edison made an improvement in the transmitter of the telephone which made it easier for the waves to travel, and improved the usefulness of the telephone very much. It was just about the same time that he invented the phonograph. This is the parent idea of the gramophone, dictaphone and other instruments, but these inventions are only a small part of the work of this wonderful man.

II. Дайте відповіді на запитання до тексту.

1. What kind of a boy was Edison?
2. Why did his teacher think him very stupid?
3. When did he make a progress in studying?
4. What did he take an interest in chemistry from?
5. What did he like to do?
6. Where did he make a little laboratory?
7. Whom did he save once?
8. What did baby's father do to show his gratitude to Edison?
9. What did he spend his spare time on?
10. What were Edison's inventions?

III. Перекладіть речення англійською мовою.

1. Едісон пішов до школи, коли був вже доволі дорослою дитиною.

2. Але тільки навчаючись під керівництвом своєї матері вдома, він зробив великі успіхи у навчанні.

3. Найбільший інтерес у Едісона викликала хімія.

4. На знак подяки за врятування сина, батько хлопчика навчив Едісона телеграфу.

5. Весь свій вільний час Едісон присвячував вивченню хімії та електрики.

IV. Перекладіть слова та вирази українською мовою.

Inquisitive, thoughtful, to take an interest in …, the cellar, a coming train, gratitude, to improve, a telegraph apparatus, the transmitter, waves, the usefulness, to invent, invention, the phonograph, to show the gratitude.

V. Поставте загальні питання до 1–5 речень тексту.

VI. Утворіть за допомогою суфіксів -er, -or або -ist іменники від поданих нижче слів; перекладіть слова українською мовою.

To burn, to receive, to compose, to read, to drive, to regulate, to accumulate, special, social, to visit.

VII. Поставте дієслово-присудок в Present, Past, Future, Continious.

Визначте час дієслова присудка в кожному реченні.

I (to wait) for you.

ВАРІАНТ 8

I. Перекладіть текст українською мовою.

TRANSISTOR RECEIVERS AND ENERGY TRANSFORMERS

Transistors and diods, based on semiconductors, have replaced radio waves and made it possible to develop radio receivers working on low-power currents. This has enabled designers to make much smaller radio-sets using less power. Our plants are producing now various types of transistor receivers. These include non-portable receivers, which are suitable for areas with no electricity supply. The portable "spidola" transistor-set is convenient for home use, and for hikes and expeditions. Pocket transitor-sets have become very popular.

Transistor technology has opened up great opportunities for the direct conversion of solar thermal energy and of various fuels into electric power. Solar batteries consisting of silicon photocells are installed in sputniks and automatic interplanetary stations and give reliable service. Our scientists and engineers are developing other means of converting light and heat into electricity. They have developed solar thermoelectric generators, which in their simplest form consist of a battery of thermo-couples in which one set of junctions is heated and another set is cooled by air or water. The electric current starts up as a result of the difference of temperatures at the terminals of the batter elements. The power of existing solar thermal generators reaches 1 kw. These installations are useful not only as a source of power lor radioreceivers but also for interior lighting.

II. Дайте відповіді на запитання до тексту.

1. What did transistors and diods, based on semiconductors, make it possible to do?
2. What radio-sets has this enabled designers to make?

3. What types of transistor receivers are our plants producing now?
4. What is "Spidola" transistor-set convenient for?
5. What has transistor-tehnology opened up great opportunities for?
6. Where are solar batteries installed?
7. What are our scientists and engineers developing?
8. What have they already developed?
9. What does solar thermoelectric generator consist of?
10. What is its power?

III. Перекладіть речення англійською мовою.

1. Це зробило можливим зробити радіоприймачі, які працюють на низькому струмові.
2. Дякуючи цьому стало можливим робити менші радіоприймачі, які використовують менше енергії.
3. Сонячні батареї використовуються в супутниках та міжпланетних станціях.
4. Дуже важливо розробляти інші можливості перетворення світла і тепла в електрику.
5. Однією з таких форм перетворення є сонячні термоелектричні генератори.

IV. Перекладіть слова та вирази українською мовою.

To be based on, semiconductors, to replace, radio valves, radio receiver, low-power current, radio-set, to enable, electricity, supply, to be convenient, to open great opportunities, thermal energy, electric power, solar batteries.

V. Поставте питання до кожного члена речення

Our plants are producing now various types of transistor receivers.

VI. Перекладіть речення англійською мовою вживаючи прислівник II (Participle II) підкресливши прислівник II.

1. Це було одне з питань, обговорюваних на зустрічі.
2. Чарльз Діккенс – добре відомий англійський письменник.
3. Гарно вдягнена жінка зайшла до ресторану і офіціант зразу ж підійшов до неї.
4. Він побачив її через відчинене вікно.

5. Зроблена помилка коштувала йому відмінної оцінки на екзамені.

VII. Поставте речення в заперечну та запитальну форму.

1. My friend has just come to see me.
2. I have already been to France.
3. His sister has learnt 3 foreign languages since that time.
4. We have left Moscow in 1980.
5. They have met their parents at the railway station.

ВАРІАНТ 9

I. Перекладіть текст українською мовою.

PRIMARY UNITS OF MEASURING ELECTRICITY AND MAGNETISM

Volt. As it was already mentioned above, the correlation of electrons and protons determines electrical state or the potential of an atom. Potential difference or pressure is measured in volts. Volt is the pressure which being applied across the ends of a conductor of 1ohm resistance causes a current of 1 ampere to flow.

It is the potential difference or pressure that forces electricity to flow through a wire in a circuit.

The term voltage is used as well as pressure. Voltage is the electromotive force of a supply of electricity measured in volts.

Ohm. Electricity flowing through a conductor meets the oppression the same as water in a pipe. this opposition to the electrons movement is directly proportional to the length of the conductor inversely proportional to it's cross-section and depends upon the material and temperature of a conductor.

The specific resistance of a conductor is a resistance of a conductor ofl ohm and of 1 mm cross-section.

The resistance is measured in ohms which equal to the resistance offered to an unvarying electric current by a mercury column at 0°C, 14,4521 gm in mass: of uniform cross-sectional area and of length 103,3 cm.

Kilo-ohm is equal to 1000 ohms.

Ampere. The unit of the flow of electric current is called tne ampere. It is the amount of electricity flowing in a conductor with the resistance of 1 ohm and with pressure of l volt per second.

When $63 \cdot 10^{17}$ electrons pass a given point in 1 sec. They constitute a current of 1 amp. The letter "i" is used as the letter symbol for electric current.

Watt. The watt is unit of measure of the amount of work done by electrical energy when there is a flow of 1 ampere current at a pressure of 1 volt. Multiplying together the number of volts and amperes used by an appliance will give the number of watts necessary to operate it.

The watt being too little unit. The kilowatt-hours is widely used as a unit of electrical rating.

Electrical energy is measured in kilo-watt hours. It is the use of 1000 w. of electricity for the period of 1 hour.

Ohm's law. In all electric circuits there is a definite correlation between the pressure, the electrons motion or electric current and the resistance. This correlation was discovered about 1825 by Ohm. It states that the electric current flowing in a circuit varies directly with the electrical pressure and inversely with the opposition.

II. Дайте відповіді на запитання до тексту.

1. What determines the electrical state or the potential of an atom?
2. What is potential difference or preasure measured in?
3. What is volt?
4. What is voltage?
5. What is the specific resistance of a conductor?
6. What is the resistance measured in?
7. What is called the ampere?
8. What is the ampere?
9. What is the watt?
10. What is electrical energy measured in?
11. What does Ohm's law state?

III. Перекладіть речення англійською мовою.

1. Вольт – це потенціальна різниця, або тиск, який примушує електричний струм проходити через провід в колі.

2. Опір руху електронів прямо пропорційний довжині провідника.

3. Ампер – це кількість електрики, що проходить в провіднику.

4. Ват – це одиниця виміру кількості роботи, зробленої електричною енергією.

5. Закон Ома був відкритий в 1825 році.

IV. Перекладіть слова та вирази українською мовою.

The correlation of electrons, the electrical state, the potential of an atom, pressure, the conductor, the resistance, a circuit, a wire, directly proportional, inversely proportional, electric current, electrical energy.

V. Поставте спеціальні питання до 1–5 речень до тексту.

VI. Перекладіть речення англійською мовою, звертаючи увагу на пасивний стан дієслова-присудка.

1. Мене запросили на День народження.
2. Той будинок було збудовано минулого року.
3. Ці листи були знайдені в його письмовому столі.
4. Коли буде відправлено телеграму?
5. Цей роман написаний відомим англійським письменником Чарльзом Діккенсом.

VII. Поставте речення в запитальну та заперечну форму.

1. I have met him before.
2. They have learned the new rule.
3. My farther has finished his work.
4. Jane has woken up.
5. We have had a long walk today.

ВАРІАНТ 10

I. Перекладіть текст українською мовою.

D. C. GENERATOR CONSTRUCTION

As we have seen a generator consists of two essential parts: the stationary part of the machine or a stator and the rotating partarmature, carrying the conductors where the e. m. f. is induced.

These two principal parts are separated by the air gap.

Stator consists of a bed, main poles, providing the main magnetic flux and commutating poles intended to improve the commutation.

Rotating part of the machine – the armature – consists of a core, winding and a commutator. The main pole consists of a core, pole coil and a pole shoe. The cores of main poles are made of separate, insulated from each other laminated steel sheets, pressed: together in the shape of packets.

The pole coils are designed to excite the magnetic flux in the pole cores. The end shields bolted to both butt-ends of a generator bed, are dcgidncd to support the armature shaft and to protect the inner part of a machine.

The armature core is of a cylindrical shape. It is made up of single sheets of clectrotcchnical steel and is fixed on the shaft.

The core slots are filled with armature winding made of copper insulated wire of a round or rectangular cross-section.

The commutator is mounted on the shaft of the armature. At the opposite to the commutator side the shaft has a free end with a key slot for mounting a pulley.

The commutator is made of copper insulated from each other segments of a wedgeshaped cross-section.

The commutator segments are fixed on a commutator sieve by means of a taper washer. It is necessary to insulate segments from a steel commutator sieve with meganite. The commutator must be of a regular cylindrical shape.

The ends of winding sections arc to be soldered to the commutator segments horns – the commutator lugs.

Brushes are made in the shape of rectangular bars and fixed in brush-holders, which hold them in a proper position and provide the reffuired brush pressure on the commutator.

II. Дайте відповіді на запитання до тексту.

1. What parts does the generator consist of?
2. What are these two principal parts separated by?
3. What does the stator consist of?
4. What does the main pole consist of?
5. What does the armature consist of?
6. What are the pole coils designed to?
7. What are the end shields designed to?
8. What is the armature core made up?
9. Where is the commutator made up?
10. Where are the brushes fixed?

III. Перекладіть речення українською мовою.

1. A generator consist of a stator and an armature.
2. A stator is the stationary part of the machine.
3. An armature is the rotating part of the machine.
4. The armature is made in the shape of the cylinder.
5. The commutator must be of a regular cylindrical shape.
6. The brush-holders hold brushes in a proper position.

IV. Перекладіть слова та вирази англійською мовою.

Генератор, складатися з, нерухома частина, обертальна частина, якір, станина, пластина, колектор, бути вмонтованим, бути призначеним, основний полюс, бути зробленим з, вал, серцевина, обмотка, перемикач.

V. Поставте запитання до кожного члена речення.

The brush-holders hold brushes in a proper position.

VI. Перекладіть речення англійською мовою, вживаючи герундій.

1. Будь-ласка, перестаньте розмовляти.
2. Я думаю, ми можемо продовжувати обговорювати це питання.
3. Ви не проти, якщо ми продовжимо грати в шахи?
4. Кожній людині необхідно читати книги.
5. Він ще не закінчив перекладати цю статтю.

VII. Поставте дієслово-присудок в Present, Past, Future, Perfect. Вкажіть час дієслова-присудка в кожному реченні.

Зробіть необхідні доповнення в кожному реченні, які вказуватимуть на час виконання дії.

I (to be) to Kyiv.