

Міністерство освіти і науки України  
ВІДОКРЕМЛЕНИЙ СТРУКТУРНИЙ ПІДРОЗДІЛ «БЕРДЯНСЬКИЙ  
МАШИНОБУДІВНИЙ ФАХОВИЙ КОЛЕДЖ  
Національного університету «Запорізька політехніка»

**КОМПЛЕКСНА КОНТРАЛЬНА РОБОТА**

**З НАВЧАЛЬНОЇ ДИСЦИПЛІНИ**

**ІНОЗЕМНА МОВА ЗА ПРОФЕСІЙНИМ СПРЯМУВАННЯМ**

Галузь знань	13 Механічна інженерія
Спеціальність	133 Галузеве машинобудування
ОПП	Технологія обробки матеріалів на верстатах і автоматичних лініях

2022 р.

## ПОЯСНЮВАЛЬНА ЗАПИСКА ДО КОМПЛЕКСНОЇ КОНТРОЛЬНОЇ РОБОТИ

Комплексна контрольна робота розроблена з метою перевірки залишкових знань студентів з дисципліни «Іноземна мова (за професійним спрямуванням)».

Комплексна контрольна робота складається з 20 варіантів. Кожний варіант містить 2 завдання.

Варіанти завдань контрольної роботи стосуються тих розділів програми, що вивчалися під час аудиторних занять або пропонувалися студентам для самостійного вивчення.

Перше завдання – текст, який треба перекласти. Основним критерієм до підбору текстів була практична користь цього виду для майбутньої професійної діяльності випускника. Друге завдання – практичне (дати відповіді на питання до тексту), перевіряє практичні навички, засвоєні студентами при вивченні дисципліни. Відповіді на питання показують загальні знання правил вживання дієслів в англійській мові, вміння використовувати знання матеріалу на практиці, творчу уяву студента під час виконання роботи.

Вимоги до знань та вмінь студентів визначаються навчальною програмою з дисципліни «Іноземна мова (за професійним спрямуванням)».

Для успішного виконання комплексної контрольної роботи студенти повинні знати:

- 1) загальні правила перекладу;
- 2) лексичний матеріал;
- 3) граматичні правила вживання дієслів в англійській мові, вживання займенників, іменників в англійській мові.

Оцінка виконання завдань комплексної контрольної роботи здійснюється з урахуванням індивідуальних особливостей студента та передбачає диференційований підхід.

## КРИТЕРІЇ ОЦІНЮВАННЯ ВИКОНАННЯ ЗАВДАНЬ КОМПЛЕКСНОЇ КОНТРОЛЬНОЇ РОБОТИ

Оцінку *«незадовільно»* отримує студент, якщо він не володіє необхідними теоретичними знаннями, його відповідь на тестові завдання та теоретичне запитання елементарна, фрагментарна, зумовлюється початковими уявленнями про предмет вивчення, якщо студент не має достатніх навичок для виконання практичного завдання, виконує від 20% до 30% від загального обсягу роботи.

Оцінку *«задовільно»* отримує студент, якщо він виявляє окремі знання та вміння, відтворює основний навчальний матеріал, при виконанні практичного завдання потребує допомоги викладача, виконує від 45% до 65% від загального обсягу роботи.

Оцінку *«добре»* отримує студент, якщо він допускає незначні помилки при виконанні тестового завдання, при відповіді на питання уміє робити висновки, проводити узагальнення, аналіз, відповідь повна, правильна, логічна, обґрунтована, хоча їй і бракує суджень науково-творчого характеру. Студент самостійно виконує практичне завдання. Допустимі 2-3 помилки, що суттєво не впливають на кінцевий результат. Виконано не менше 85% від загального обсягу роботи.

Оцінку *«відмінно»* отримує студент, якщо знання студента є глибокими, міцними, узагальненими, системними, студент вірно відповідає на всі тестові завдання, дає обґрунтовану, чітку відповідь на теоретичне запитання, грамотно використовує отримані навички при виконанні практичного завдання, проявляє творчий підхід, дотримується всіх вимог до оформлення роботи. Самостійно виконує 100% роботи.

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**КОМПЛЕКСНА КОНТРОЛЬНА РОБОТА**

**VARIANT 1**

*1) Read and translate text.*

Chemistry is an experimental and theoretical study of the composition of matter and the changes that take place in matter. A chemical change involves changes in composition and in properties. A physical change involves only changes in properties with no change in composition.

Chemical changes are usually accompanied by the liberation or the absorption of energy in the form of light, heat or electricity.

All forms of matter consist of either pure substances or mixtures of two or more pure substances. Elements are the building blocks of matter. Compounds are combinations of elements. Most of the elements are metals and most of them will unite with other elements and form compounds. The formation of a compound from simpler substances is known as synthesis. Analysis is the process of breaking down a compound into simpler substances or its elements and thus is the determination of its composition. The composition of a pure substance never changes.

Every substance has physical and chemical properties. Physical properties include colour, smell, solubility, density, hardness and boiling and melting points. Chemical properties include the behavior with other materials.

Matter exists in three states: the solid, the liquid and the gaseous state. A substance can be transformed from one state to another under the changes of its temperature.

Chemistry is so much a part of our lives that it is very easily taken for granted. Metals, glass, plastics, dyes, drugs, insecticides, paints, paper, soaps, detergents, explosives and perfumes are all made of chemicals.

*2) Answer the following questions.*

1. What is chemistry?
2. What does chemistry study?
3. What does a chemical change involve?
4. What does a physical change involve?

**Розробник: викладач Кульбашенко К.В. \_\_\_\_\_**

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**VARIANT 2**

1) Read and translate the text.

You may become the economist - engineer after graduation from the university or technical college and work at the industrial enterprise, research institute, at any firm or company. While being at the university the students master the following subjects: statistics, organization and planning of production, branch economics, fundamentals of management, marketing, cost - accounting, scientific labour organization, industrial finance and others. The economist - engineer has to know organization of industrial management, organization of labour and wages, organization and planning of production as well. He must be able to work out long - range and current plans of production, cost - accounting indicators, quota prices for new types of goods, give scientific forecasting of branch development.

Forecasting can not be without research, without the coordinated activity of large teams of research workers and investigators. Proceeding from the data contained in the forecasts, planning bodies are in a position to choose the most effective solutions as regards the trend of development, content which will subsequently take the shape of plan indices and targets. Forecasts are used in varying degree at all stages of the plan - drafting process and even at the stage of plan - fulfillment itself.

2) Answer the following Questions.

1. What is your specialty?
2. What special subjects do you study?
3. What will you be after graduation from the university or college?
4. What should the economist - engineer be able to do?
5. What should the economist - engineer know?

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**VARIANT 3**

*1) Read and translate the text.*

Electronics is a science which studies the properties of electrons, the laws of their motion, the laws of the transformation of various kinds of energy through the media of electrons. The basic elements in electronics are the electron tube and the transistor. Electronic techniques are applied in many fields, including industry, communication, defence and entertaining. Industrial electronics is the science of electronic processes. It deals with the technology of design, construction of electronic devices. The industrial application of electronics includes control gauging, counting and measuring, speed regulations, etc. The research in the field of electronics gave us radar devices, computers, tape-recorders betatron and a lot of medical tools. Semiconductor devices which have replaced electron tubes reduce the size of instruments. The appearance of the transistor made a great progress in the development of the field. It was the first step in miniaturization of electronic devices. Then it led to the development of large-scale integrated circuits. Now hundreds of circuits can be placed on the space of one square inch. Electronics makes a great contribution to automation. Electronic computers have provided the basis for the construction of automatic lines, automated units, shops and whole plants, tools with programmed control, robots and manipulators. Radio-electronic systems ensure reliable communication with space-ships and pace stations, satellites. Electronics has penetrated into all the spheres of human activity from household appliances to artificial intelligence.

*2) Answer the following questions.*

1. What is electronics as a science?
2. Where are electronic techniques applied?
3. What is industrial electronics?
4. What are the sages in the development of electronics?
5. What contribution does electronics make to different branches of industry and science?

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**VARIANT 4**

1) Read and translate the text.

In the conditions of the scientific and technological progress the significance of engineers is increasing. Our country has taken on a course toward the market economy. Engineers have an important part to play in intensifying the national economy. In their work engineers are guided by the latest achievements in science and technology. Engineering means physical implementation of the design process into machines, devices or systems. Only a well-trained engineer can cope with his tasks. In the practical work an engineer is faced with problems of choosing suitable engineering materials for construction different devices or machine parts. A modern engineer must have good knowledge of physics and mathematics, chemistry, computers, systems engineering computer-aided-design, management science, etc.

Engineers are trained at different technical higher schools and at some departments of the universities. In spite of the fact that there are no single and absolutely identical curricula, the sets of subjects for training technical students very much in common. Future engineers are trained in fundamental sciences and special subjects. Apart from the teaching fundamentals, the students are offered a wide programme of humanities. A great attention at technical departments is paid to such subjects as history, philosophy, economics, management, sociology, ecology and foreign languages as well as to the development of the scientific world outlook of the future engineers. The engineer is the main motive power of the technological progress.

2) Answer the following questions.

1. What is engineering?
2. What is the role of the engineer in the technological progress?
3. What should the engineer know to cope with his tasks?
4. Where are engineers trained?
5. What subjects and sciences are technical students trained in?

**Розробник: викладач Кульбашенко К.В.** \_\_\_\_\_

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**VARIANT 5**

1) Read and translate the text.

The largest computers (minicomputers) are those found in research centres, large scientific laboratories, big universities. Most of the computer principles and concepts are common to all categories of computers, although there can be tremendous variations from computer to computer. The computer programmer provides a programme of instructions and data which specifies every detail of what to do, how to do, and when to do it. The computer is simply a high-speed machine which can manipulate data, solve problems, and make decisions, all under the control of the programmer. If the programmer makes a mistake in the programme or puts in the wrong data, the computer will produce wrong results. Every computer contains five essential elements or units: the arithmetic logic unit, the memory unit, the control unit, the input unit and the output unit. The arithmetic logic unit is the area of the computer in which arithmetic and logic operations are performed on data. The memory unit stores groups of binary digits (words) that can represent instructions (programme) which the computer is to perform and the data that are to be operated on by the programme. The input unit consists of all the devices used to take information and data that are external to the computer and put it into the memory unit. The output unit consists of the devices used to transfer data and information from the computer to the outside world. The control unit directs the operation of all the other units by providing timing and control signals. This unit contains logic and timing circuits that generate the signal necessary to execute each instruction in a programme.

2) Answer the following questions.

1. What is the difference between microcomputers and minicomputers?
2. What do we call a programme?
3. Where are programmes in binary-coded form placed?
4. Where are minicomputers often used?
5. What kinds of computers are used in scientific laboratories and big universities?

**Розробник: викладач Кульбашенко К.В.** \_\_\_\_\_



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**VARIANT 6**

1) Read and translate the text.

The machine is known to be the major and efficient means of labour in modern production. The machine building industry produces various kinds of machinery and machine-tools to meet the requirements of engineering branches as well as the light and food industries. The engineering industry characterized by such features as increased capacities and speeds of machinery, the replacement of mechanical control systems by electrical and hydraulic ones. It is characterized by simplification of machinery design, an increasing use of automatic devices and the introduction of programme control techniques on a mass scale. Automation of production means producing automatic and semiautomatic machinery, machine-tools, numerically controlled machines based on microprocessors and microcomputers, installing transfer lines. It is a key production for the building of the material and technical base of economy. Shortly speaking, automation consists of four integral parts transfer machines, automatic assembly, communication engineering and control engineering. There is difference between mechanization and automation. In automation the functions of control, maintaining machines are transferred to other machines while in mechanization these functions are transferred to the working mechanisms.

The mechanized and automated production lines replace the work of a tremendous number of workers. There are fully automated enterprises such as chemical and hydro-power plants. The development and mass production of new types of computer technology makes it possible to exclude man from the entire technological processes. The so - called flexible manufacturing system (FMS) are able to meet the demands of industry. They are considered to be the future in the automated plant.

2) Answer the following questions.

1. What is the machine in modern production?
2. What does the machine-building industry produce?
3. What are the main features of the engineering industry?
4. What is automation of production?
5. What is automation?

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**VARIANT 7**

*1) Read and translate the text.*

I study at the department of the technological equipment and automated control systems. The students of our department are specializing in mechanics, automation of technological processes and automated control systems, industrial electronics, electrical engineering. Mechanical engineering is called a key industry due to its importance to all sectors of the national economy including mechanization, automation, chemical engineering, etc. Engineering is a complex consisting of interlinked industries. Machine-tool manufacture is the material and technical base of engineering. Mechanical engineering is rapidly changing. Instrument-making plays an increasingly important part. This branch of engineering produces automation equipment, quality control devices, computers, etc. The development of automation is closely linked with progress in instrument-making and the output of up-to-date measuring and control instruments and devices. As future engineers we set a thorough knowledge of physics, mathematics, technical drawing, electrical engineering, strength of materials and machine parts, automation and automated control systems, computing, etc. We are taught by a highly-qualified staff of professors and teachers. Our practical training and laboratory works are done in the laboratories equipped with modern installations, apparatuses and devices. Theoretical training is combined with scientific work at the scientific centres and student design bureaus. As a rule, students write their term papers and graduation theses on the problems connected with their scientific work.

*2) Answer the following questions.*

1. Why is industrial engineering so important?
2. What is the material and technical foundation of engineering?
3. Is instrument-making an important branch of engineering?
4. What is the development of automation closely linked with?
5. What sciences and special subjects are of great importance in training future engineers?

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**VARIANT 8**

*1) Read and translate text.*

Life depends fundamentally on organic polymers. These polymers provide not only food but also clothing, shelter and transportation. Indeed, nearly all the material needs of man could be supplied by natural organic products. The list of these materials and things made of them might be very long: wood, fur, leather, wool, cotton, silk, rubber, oils, paper, paints and so on. The organic polymers from which such things could be made include proteins, cellulose, starch, resins and other classes of compounds. Modern methods of physical and chemical analyses have uncovered the principles that govern the properties of the natural polymers. A new industry of man-made organic polymers has appeared. One could list the principal products such as fibres, synthetic rubbers, coating, adhesives and a lot of materials called «plastics». Plastics and synthetic coating are - already in common use. Synthetic polymers now available already possess several of the properties required in a structural material. They are light in weight, easily transported, easily repaired, highly resistant to corrosion and solvents, and satisfactory resistant to moisture. It would be necessary to add that they have long-lived durability and resistance to high temperatures. A very important question could arise: whether synthetic polymers could be made inexpensive enough to compete with the structural materials such as metals and ceramics. The answer could be «yes». Natural substances can't be like polymers in lightness, strength, chemical durability, ability to absorb vibrations and reflect, stop or let through sound or radio waves or nuclear radiation. Polymers can be either porous or monolithic, transparent or opaque. They have long been used as excellent electrical insulators.

*2) Answer the following questions.*

1. What does life fundamentally depend on?
2. How has a new industry of man-made organic polymers appeared?
3. What properties do synthetic polymers possess?
4. Could synthetic polymers compete with metals and ceramics?
5. What molecular weights have organic substances?

**Розробник: викладач Кульбашенко К.В.** \_\_\_\_\_

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**VARIANT 9**

*1) Read and translate the text.*

A computer is really a very specific kind of counting machine. It can do arithmetic problems faster than any person alive. By means of electric processes it can find the answer to a very difficult any complicated problem in a few seconds. A computer can «remember» information you give it. It keeps the information in its «memory» until it is needed. There are different kinds of computers. Some can do only one job. There are special purpose computers. Each specific problem requires a specific computer. One kind of computer can help us build i spaceship, another kind can help us navigate it. A special-purpose computer is built for this purpose alone and cannot do anything else. But there are some computers that can do many different jobs. They are called the general-purpose computers. There are the bin «brains» that solve the most difficult problems of science. We used to think of a computer as a large machine that took up a whole room. But today computers are becoming smaller. Though these small devices are called microcomputers or minicomputers, they are still true computers. The most important parts of a general-purpose computer are as follows: 1) memory, where information is kept; 2) an arithmetic unit for performing calculations; 3) a control unit for the correct order of operations; 4) input devices; 5) output devices for displaying the results of calculating. The input and output devices are called peripherals. There are several advantages in making computers as one can. Sometimes weight is particularly important. A modern plane carries many heavy electronic apparatus. If it is possible to make any of them smaller, it can carry a bigger weight. But weight is not the only factor.

*2) Answer the following questions.*

1. What is an automatic computer?
2. What do the input and output units do?
3. What kinds of computers are there?
4. Where does the computer store the information?
5. How many operations does the computer perform?

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**КОМПЛЕКСНА КОНТРОЛЬНА РОБОТА**

**VARIANT 10**

*1) Read and translate the text.*

Management is a process which takes place at all levels in an organization. It is not carried out only by people with «manager» in their job title. There are three levels of management in most organization Strategic management (Chief Executive, Board of Directors); tactical management (all types of middle management, departmental F managers, functional managers such as the personnel manager, account, F sates manager); operational management (foremen, supervisors, chieff clerk, etc.). Management tasks can he grouped into: planning, motivate ting, organizing, control with decision-making taking place within each. Planning, decision-making and control are intimately related managerial processes of deciding in advance «what» is to be done and «how» it is to be done, when to do it and «who» is to do it. There are three levels of planning: strategic, tactical, operational. Strategic planning: 1) which business should the organization be in? 2) how should they be financed? 3) how should the organization be structured? 4) how should resources be allocated?

Tactical planning: 1) what products should be added or deleted? 2) what capital investment or divestment is necessary to meet strategic plan? 3) what is the best pricing pattern? 4) what new faculties systems or methods are needed to meet strategic plans?

Operational planning: 1) what is the best production (marketing, etc.) plan to meet objectives? 2) what materials, facilities are needed for operations? 3) what is the best method of organizing operations?

*2) Answer the following questions.*

1. What is management?
2. What should the manager know to cope with his tasks?
3. How many levels of management? What are they?
4. What are the main tasks of management?
5. What are strategic planning connected with?

**Розробник: викладач Кульбашенко К.В.** \_\_\_\_\_

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**КОМПЛЕКСНА КОНТРОЛЬНА РОБОТА**

**VARIANT 11**

1) Read and translate the text.

The Internet.

The Internet, a global computer network which embraces millions of users all over the world, began in the USA in 1969 as a military experiment. It was designed to survive a nuclear war. Information sent over the Internet takes the shortest path available from one computer to another. Because of this, any two computers on the Internet will be able to stay in touch with each other as long as there is a single route between them. Owing to this technology, if some computer on the network are knocked out, information will just route around them. One such packet-switching network which has already survived a war is the Iraqi computer network which has not been knocked out during the Gulf War. Most of the Internet host computers are in the United States, while the rest are located in more than 100 other countries. Although the number of host computers can be counted fairly accurately, nobody knows exactly how many people use the Internet, there are millions worldwide, and their number is growing by thousands each month. The most popular Internet service is e-mail. Most of the people who have access to the Internet, use the network only for sending and receiving e-mail messages. However, other popular services are available on the Internet - reading Usenet News, using the World - wide web, telnet, FTP, and Gopher.

In many developing countries the Internet may provide businessmen with a reliable alternative to the expensive and unreliable telecommunications systems of these countries. Commercial users can communicate cheaply over the Internet with the rest of the world.

2) Give answer for questions.

1. What is the Internet?
2. What was the Internet originally designed for?
3. What country are most of the Internet host computers in?
4. What is the most popular Internet service?
5. Whom do you have to pay for sending e-mail messages?

**Розробник: викладач Кульбашенко К.В. \_\_\_\_\_**

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**КОМПЛЕКСНА КОНТРОЛЬНА РОБОТА**

**VARIANT 12**

*1) Read and translate the text «Advertising as a Career in the USA».*

Advertising is any paid form of no personal presentation and promotion of products, services, or ideas by an identifiable individual or organization. It flourishes mainly in free market, profit - orient countries. It is one of the most important factors in accelerating and helping to raise the standard of living. Advertising cannot turn a poor product or service into a good one, but what it can do - and does - is to create an awareness about both old and new products and services. So that there are three main objectives of advertising: to produce know ledge about the product or service, to create preference for It, to stimulate thought and action about it.

Careers in advertising may involve working for advertisers, media, advertising agencies, or suppliers and special services. In the opinion of American specialists, at most, only 35 colleges and universities in the USA have effective courses in advertising education. Fewer than 10 offer any truly significant amount of graduate work in advertising. However, advertising draws people from a variety of educational backgrounds. Most companies that advertise extensive have advertising managers, or brand managers. Since these people help to coordinate the company's advertising program and with its sales program and with the company advertising agency, they must have aptitudes for both advertising and management.

Media. All media uses salesmen to sell advertising space or broadcasting time. Media salesmen must be knowledgeable about business and skilled in salesmanship.

*2) Give answers for questions.*

1. What is advertising?
2. What is one of the most important factor in accelerations?
3. What are the main objectives of advertising?
4. What do all media salesmen use?
5. What are the main functions of salesman?

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**КОМПЛЕКСНА КОНТРОЛЬНА РОБОТА**

**VARIANT 13**

1) Read and translate text «Marketing Association».

As defined the committee on definitions of the American Marketing Association, marketing is «the performance of business activities directed toward and incident to, the flow of goods and services from producer to consumer or user».

Today discovering demand, managing demand, and physically supplying demand constitute the three major divisions of Marketing effort undertaken by many firms. Marketing management approached this state in the 1950's when General Electric enunciated a policy declaring that «marketing begins with the consumer». By discovering and filling unmet wants, its marketing program was designed to produce what General Electric could sell because customers had certain unmet wants. Subsequently, having what you could sell instead of trying to «high pressure» customers into buying what you have required provided the use of marketing research and environment «scanning» of conditions affecting business. The key concept of market selection and product planning is the Product Life Cycle. It predicts that any product passes through various stages between its life and death introduction - growth - maturity - decline. So companies can make better marketing decisions if they find out where each of their products stands in its life cycle.

2) Give answers for the questions.

1. What is marketing?
2. When did marketing management approach?
3. What is the key concept?
4. What are the three major divisions of Marketing effort?
5. What do you know about modern marketing association?

**Розробник: викладач Кульбашенко К.В.** \_\_\_\_\_



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**КОМПЛЕКСНА КОНТРОЛЬНА РОБОТА**

**VARIANT 14**

*1) Read and translate text «Stock Exchange and its work».*

The American Central Bank, the FED, is the equivalent of the Bank of England in Britain. The units of ownership of a company, allowing the holder to receive a proportion of the company's profits, are the shares, The shares can be ordinary, preference, nominal and equity securities. When one company attempts to gain control of another, by buying a majority of its shares, it's making a takeover bid. When one company joins another to form a larger single company, the new company is the result of a merger. When one company buys a majority of the shares of another, and so gains control, it has carried out a takeover. The capital needed to run a business is provided by investment. The shareholders investment in a company is the share capital. If the company quoted the shares are sold on the Stock Exchange. The exchange brokers work here and realize exchange transactions paying attention to exchanging fluctuations They have certain exchange restrictions while working. They use the exchange lists in the everyday work. Sometimes it may occur the exchange lost. In the UK, a fixed amount of paid-up capital held by a stockholder is a stock .If the market is thought to be good and prices on the Stock Exchange are thought to be likely to rise, the market is called a bull market.

*2) Give answers for the questions.*

1. What is the equivalent of the Bank of England?
2. What kinds of shares do you know?
3. What is the share holders investments?
4. Why does capital provided by?
5. What is the result of a merger?

**Розробник: викладач Кульбашенко К.В.** \_\_\_\_\_

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**КОМПЛЕКСНА КОНТРОЛЬНА РОБОТА**

**VARIANT 15**

1) Read and translate text «Banks, Accounts, Clients».

The Bank account that covers daily needs is the current account. The account which described the trading activities of a business over a stated period of time is the profit and loss account. To start an account with a bank or with a supplier is to open it, to finish using an account with a bank or with a supplier and formally to end the arrangement is to close it. To obtain cash from a bank at which one has an account is to draw out cash. Every company must watch its cash flow carefully if it's to avoid bankruptcy. The clients can transfer money from the account or withdraw the whole deposit from a bank. You can open a current account or deposit account in a bank. An inquiry to a bank, asking whether a customer is creditworthy, is a status inquiry. Payment of a debit in a cash is cash settlement. The greatest sum which debtors are allowed to owe is their credit limit. Items for which payment is owed appear on an account as debit items. Items to be paid to a creditor are shown on a credit note.

If you need cash in the bank you can use the cash dispenser putting it your credit card.

A note which accompanies goods sent by a seller, to be signed by the person who receives the goods, is a delivery note. A document showing what has been bought and for how much, and indicating that are in transit, is an advice note.

2) Give answers for the questions.

1. What is the current account?
2. What is the profit?
3. What does it mean to draw out a cash?
4. How you can used a credit card?
5. What is advice note?

**Розробник: викладач Кульбашенко К.В.** \_\_\_\_\_

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**КОМПЛЕКСНА КОНТРОЛЬНА РОБОТА**

**VARIANT 16**

*1) Read and translate text «Computers in our life».*

Computer hardware consists of a computer, a monitor, a keyboard, a printer, and their connections. The software contains the various programs you run on your computer. The most common programs used in business are those for word processing, spread sheets, database management programs, accounting, graphics programs, communications programs, desktop publishing programs, the operator keys in the information which can be saved and retrieved at a later date. Most businesses nowadays use personal computers, or PCs, which are often linked together in a local network. This is a big change from the days when time had to be rented on mainframe computer. Nowadays these are only used by very large businesses, universities, or government departments. The two most popular types of computers currently are those of IBM and Apple. It was IBM who set standard for the PC which others later imitated. That is why in order to be able to use the widest range of soft ware, a computer has to be IBM compatible. The most successful software company now is Microsoft with its Windows programs for different years. Microsoft has done a good job of making Windows of each year compatible with software developed for previous of Windows, and with MS-DOS.

*2) Give answers for the questions.*

1. What does hardware consist of?
2. Where do you used common programs?
3. What are the most popular kinds of computers?
4. What can you do with the help of computer?
5. What the popular computers program do you know?

**Розробник: викладач Кульбашенко К.В.** \_\_\_\_\_

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**КОМПЛЕКСНА КОНТРОЛЬНА РОБОТА**

**VARIANT 17**

1) Read and translate text «Matter».

It's well known that any matter is composed of large numbers of very small mass participle called molecules. They are a state of continuo's motion. In a solid they are closely packed and give to the solid its definite shape. In a liquid, the molecules have a weaker cohesion and travel with some freedom, so that the liquid takes up the shape of the vessel in which it's contained. In a gas, the molecules are still mobile and relatively far apart. The cohesive force is small and the gas fills its container and is easily compressed or expanded When substances are heated the molecules move more intensely, and expansion or pressure arises. An atom is the smallest participle if matter and it generally exists only in combination with other three kinds of participles - electrons, protons, and neutrons, and the numbers of participles determine the kind of element. An electron has a negative electric charge. A proton is positively charged. A neutron is a changeless mass. The neutrons and protons of an atom are linked together to form a compact nucleus, while the electrons travel in orbits round the nucleus like planets round the sun. The simple hydrogen atom has a single proton as nucleus and a single electron as planet. The atomic weight of an atom is the number of protons and neutrons it contains. The atomic number is the number of protons in the nucleus, normally the number of negative or positive charges is equal, and the atom is electrically balanced.

2) Give answers for the questions.

1. What does matter compose of?
2. What is molecule?
3. What is called atom?
4. What are the main states of matter?
5. What charges have an electron, proton?

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**КОМПЛЕКСНА КОНТРОЛЬНА РОБОТА**

**VARIANT 18**

1) Read and translate text «Underground Exploration».

Having finished the preliminary prospecting work we can start underground exploration and the opening-up of the mine. This is done by various horizontal, vertical and inclined openings, Drifts, Inclines and Shafts and in many cases by Boreholes. Our task is to make the deposit accessible, or the position and form of the deposit, and on the configuration of the surface. In many cases we open the deposit by sinking shafts and by driving horizontally from them to the deposit the so called Crosscuts. In mountainous areas we simply drive a tunnel to the deposit. Having reached the ore and thus access to it we proceed to explore it in horizontal and vertical directions. This is best done by driving Levels from the place where our shaft or crosscut has struck it, by sinking Winzes in vertical deposits and inclines in inclined deposits. This work is to explore the deposit, as we don't know whether it will be worth working, we call the drifts Exploratory drifts. These are made so that they can be used for mining if the results of the exploration justify us in undertaking it. Thus theses exploratory shafts, inclines, and drifts, are then called the Development Workings, as they are established in such a manner that they divide the deposit into suitable blocks, which can be convenient mined and from where the broken ore can be easily transported.

2) Give answers for the questions.

1. In what way we can done underground exploration?
2. What is our task during underground exploration?
3. What do we call crosscuts?
4. What do we call drifts?
5. What are the main difficulties during underground exploration?

**Розробник: викладач Кульбашенко К.В.** \_\_\_\_\_

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**КОМПЛЕКСНА КОНТРОЛЬНА РОБОТА**

**VARIANT 19**

1) Read and translate the text «The Nature of Electricity».

The ancient Greeks knew that when a piece of amber is rubbed with wool or fur it achieves the power of attracting light objects. Later on the phenomenon was studied, and the word electric, after the Greek word «electron» means amber was used. Many scientists investigated electric phenomena, and during the nineteenth century many discoveries about the nature of electricity, were made. It was found that if a sealing - wax rod is rubbed with a woolen cloth, and a rod of glass is rubbed with a silken cloth an electric spark will pass between the sealing of wax rod and the glass rod when they are brought near one another. Moreover, it was found that a force of attraction operates between them. An electrified sealing is repelled, however, by a wax rod, and also an electrified glass rod is repelled, by a similar glass rod. The ideas were developed that there are two kinds of electricity, which were called resinous electricity, and that opposite kinds of electricity attract one another, whereas similar kinds repel one another. The study of electricity may be divided into three classes or branches: magnetism, electrostatics, and electrodynamics. Magnetism is the property of the molecules of iron and certain other substances through which they store energy in a field of force because of the arranged movement of the electrons in their atoms. Electrostatics is the study of electricity at rest. Electrodynamics is the study which flows through wires for light and power purposes is a good example of the latter type of electricity.

2) Give answers for the questions.

1. When did the first study the phenomenon of electricity?
2. What kinds of electricity do you know?
3. What are the main classes of study electricity?
4. What is magnetism?
5. What does electrodynamics study?

**Розробник: викладач Кульбашенко К.В.** \_\_\_\_\_

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**КОМПЛЕКСНА КОНТРОЛЬНА РОБОТА**

**VARIANT 20**

1) Read and translate text «Mechanical properties of metals and alloys».

The strength of a material is the property of resistance to external loads or stresses without incurring structural damage. The strength of metals and alloys depends upon two factors, namely, the strength of the crystals of which the metals are constructed and the tenacity of adherence between these crystals. A stress is the force within a body which resists deformation due to an externally applied load. If this load acts upon a surface of unit area, it's called a unit force and the stress resisting it a unit stress. When an external force acts upon an elastic material, the material is deformed and the deformation is in proportion to the load. This distortion or deformation is strain. Any material subjected to an external load is distorted or strained. Elastically stressed materials return to their original dimensions when the load is released if the load isn't too great. The property, of regaining the original dimensions upon removal of the external load is known as elasticity. The elasticity of a metallic substance is a resistance of its atoms to separation or compression or rotation about one another, and thus is a fundamental property of the material. So elasticity is demonstrated as a function of atomic forces. Yield point. This is a point on the stress - strain curve at which the stress levels off or actually decreases while strain continues. The term is strictly applicable only to mild steels.

2) Give answers for the question.

1. What is the strength of material?
2. What does the strength of materials depend upon?
3. What is the stress?
4. What is elasticity of a metallic substance?
5. What is yield point?

**Розробник: викладач Кульбашенко К.В.** \_\_\_\_\_

# ЗРАЗОК ВІДПОВІДІ НА ТЕОРЕТИЧНІ ПИТАННЯ І ЕТАЛОННЕ РІШЕННЯ ПРАКТИЧНОГО ЗАВДАННЯ

## ВАРІАНТ 4

### Відповідь на питання 1.

В умовах науково-технологічного процесу зростає важливість інженерів. Наша країна прийняла курс на розвиток ринкової економіки. Інженери грають значну роль в інтенсифікації національної економіки. Інженери у своїй праці беруть до уваги останні досягнення науки та технології. Інженерія означає фізичне втілення конструкторських процесів в машини, прибори та системи. Тільки висококваліфікований інженер зможе подолати різні задачі. На практиці інженери вирішують різні проблеми пов'язані з вибором конструкційних матеріалів, різних приборів та машинних частин. Сучасний інженер повинен мати добрі знання з фізики, математики, хімії, комп'ютера, проектування, менеджменту.

Інженери навчаються на різних факультетах вищих закладів і університетах та інститутах. Незважаючи на те, що кожен навчальний заклад має свій власний навчальний план, але склад предметів навчання має багато спільного. Майбутні інженери вивчають основні та спеціальні предмети. Крім вивчення загальних основ, студентам пропонується широка програма гуманітарних наук. Велика увага приділяється на технічних факультетах таким предметам як: історія, філософія, економіка, менеджмент, екологія, іноземній мові.

Інженери – це головна рушійна сила технологічного прогресу.

### Відповідь на питання 2.

1. What is engineering?

Engineering means physical implementation of the design process into machines, devices, systems.

2. What is the role of the engineer in the technological process?

The engineer is the main motive power of the technological progress.

3. What should the engineer know to cope with his tasks?

A modern engineer must have a good knowledge of physics, chemistry, computers, management.

4. Where engineer are trained?

Engineers are trained at different departments of the universities.

5. What subjects and sciences students are trained?

Students are trained to such subjects as history, philosophy, economics managements, sociology, ecology, foreign languages.