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«Кузбасский государственный технический университет имени Т. Ф. Горбачева»
в г.Белово
(филиал КузГТУ в г.Белово)

ИНОСТРАННЫЙ ЯЗЫК

Методические указания к практическим занятиям
по дисциплине «Иностранный язык» для обучающихся 1 курса специальности
09.02.07 «Информационные системы и программирование»

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ВВЕДЕНИЕ

Практическое занятие - вид учебного занятия, в процессе которого обучающиеся выполняют одну или несколько практических работ (практических заданий) под руководством преподавателя.

Практические занятия проводятся согласно календарно-тематическому планированию, в соответствии с требованиями учебной программы по дисциплине.

Для всех видов аудиторных занятий академический час устанавливается продолжительностью 45 минут.

Проведение практических занятий по учебной дисциплине «Иностранный язык» направлено на следующее:

- обобщение, систематизацию, углубление, закрепление полученных теоретических знаний;
- формирование умений применять полученные знания на практике;
- реализацию единства интеллектуальной и практической деятельности;
- развитие интеллектуальных умений: аналитических, проектировочных, конструктивных и др.;
- выработку при решении поставленных задач таких профессионально значимых качеств, как самостоятельность, ответственность, точность, творческая инициатива.

Основной дидактической целью практических занятий является формирование практических умений, в том числе профессиональных и учебных.

Наряду с формированием умений и навыков в процессе практических занятий обобщаются, систематизируются, углубляются и конкретизируются теоретические знания, вырабатывается способность и готовность использовать теоретические знания на практике, развиваются интеллектуальные умения.

ОБЩИЕ МЕТОДИЧЕСКИЕ РЕКОМЕНДАЦИИ И УКАЗАНИЯ ПО ВЫПОЛНЕНИЮ ПРАКТИЧЕСКИХ ЗАНЯТИЙ

1.1 Подготовка к практическому занятию

1. Внимательно ознакомиться с описанием соответствующего практического занятия и установить, в чем состоит основная цель и задача этой работы;
2. По соответствующим литературным источникам изучить теоретическую часть, относящуюся к данному практическому занятию.

1.2 Выполнение практических занятий

Успешное выполнение работы может быть достигнуто в том случае, если обучаемый представляет себе цель выполнения практического занятия, поэтому важным условием является тщательная подготовка к практической работе.

1.3 Как пользоваться методическими указаниями

- сначала ознакомьтесь с теоретической частью, чтобы составить себе общее представление о тематике предстоящей работы;
- затем переходите к выполнению заданий, внимательно прочтите текст задания, который часто представляет собой алгоритм будущих технологических действий; в каждом новом задании для наглядности описана технология выполнения для достижения поставленной в задании цели.
- по окончании выполнения предложенных заданий необходимо ответить на вопросы самоконтроля в конце каждого практического занятия.

1.4 . Перечень практических занятий

| Наименование разделов и тем | Содержание учебного материала практических занятий | Объем в часах |
|---|--|---------------|
| Семестр 2 | | 60 |
| Тема № 2.1 Достижения и инновации в области науки и техники. | Практическое занятие 15. Достижения и инновации в области науки и техники. Современные научные достижения. Технический прогресс в нашей жизни. Отработка лексического минимума. Выполнение упражнений. Введение лексических единиц, практика употребления. | 4 |
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| | Практическое занятие 17. Истории великих открытий. Работа с текстом. Повторение числительных. Выполнение тренировочных упражнений по теме. | 2 |
| | Практическое занятие 18. Обучение составлению конспекта сообщения. Использование вопросительных предложений. Активизация лексических единиц по теме. | 2 |
| | Практическое занятие 19. Обучение составлению аннотации на основе прочитанного текста. Использование клише для составления аннотации. Активизация лексических единиц по теме: «Ученые с мировым именем». | 2 |
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| | Практическое занятие 21. Национальные и международные выставки. Составление рассказа по материалу занятия. Обучение монологической речи. Активизация лексических единиц по теме. Выполнение лексико-грамматических упражнений. | 2 |
| | Практическое занятие 22. Согласование времён. Обучение правильному использованию согласования времён в английских предложениях. Выполнение лексико-грамматических упражнений. | 4 |
| | Практическое занятие 23. Согласование времён. Правила перевода прямой речи в косвенную речь. Перевод прямой речи в косвенную речь: общих вопросов, специальных вопросов, модальных глаголов, повелительного наклонения и просьб. Выполнение грамматических упражнений. | 2 |
| | Практическое занятие 24. Отраслевые выставки. Обучение навыкам письменной и устной речи на основе составления сообщения и диалогов по теме. Использование прямой и косвенной речи в английском языке (продолжение). Активизация лексических единиц по теме. | 4 |
| | Практическое занятие 25. Презентация товара компании на выставке. Составление диалогов по теме. Использование прямой и косвенной речи в английском языке. Ролевая игра «Презентация товара компании на выставке». Активизация лексических единиц по теме. Выполнение лексико- | 2 |

| | | |
|--|--|---|
| | грамматических упражнений. | |
| Тема № 2.3 Компьютер. | Практическое занятие 26. Метрическая система мер. Обучение навыкам устной монологической речи. | 4 |
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| | Практическое занятие 29. Аппаратное обеспечение. Обучение навыкам понимания общего содержания текста по теме и активизация лексики в речи по данной теме. | 2 |
| | Практическое занятие 30. Составление реферата по тексту «Компьютерные операции. Типы данных». Обучение алгоритму составления реферата на основе текста. Активизация использования лексики по теме. | 2 |
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| | Практическое занятие 33. Всемирная паутина и Интернет. Составление реферата и активизация лексики по данной теме. Выполнение лексико-грамматических упражнений. | 2 |
| Тема № 2.4 Промышленное оборудование. | Практическое занятие 34. Промышленная электроника. Составление сообщения и активизация лексики в речи по данной теме. Выполнение лексико-грамматических упражнений. | 4 |
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| | Практическое занятие 36. Выполнение лексико-грамматического теста. | 2 |

1.5 Оформление отчетов по практическим занятиям

На новой странице тетради указать название и порядковый номер практического занятия. Отчет по практическому занятию должен быть написан разборчивым подчерком и выполнен в тетради с полями для проверки работы преподавателем.

Итогом выполнения является устная защита отчета, письменный отчет или результаты теста в ЭОС.

1.6 Критерии оценивания

Оценка за отчет по практическому занятию выставляется каждому студенту. Преподаватель анализирует содержание отчета по практическому занятию, затем оценивает результат.

| Оценка за отчет по практическому занятию | Тестирование в ЭОС | |
|--|--|--|
| 5 (отлично) | Тестируемый набрал 90 и более процентов правильных ответов. | коммуникативная задача решена полностью; работа выполнена в полном объеме; понято основное содержание оригинального текста, даны полные аргументированные ответы на вопросы; решена коммуникативная задача при высказывании; соблюдены основные правила оформления текста в письменной речи; без орфографических и лексико-грамматических ошибок или имеется незначительное количество орфографических и лексико-грамматических ошибок. |
| 4 (хорошо) | Тестируемый набрал от 76 до 89 процентов правильных ответов. | коммуникативная задача решена полностью, выполнено менее 80 % от объема работы; затруднения при работе с текстом, затруднение в понимании слов; найдено примерно 2 / 3 заданной информации при ответах на вопросы; неточности в употреблении слов, но ошибки не препятствуют пониманию текста; имеются незначительные лексико-грамматические и орфографические ошибки. |
| 3 (удовлетворительно) | Тестируемый набрал от 61 до 75 процентов правильных ответов. | коммуникативная задача решена; выполнено не менее 60 % от объема работы; неточное понимание текста, языковая догадка совсем не развита, найдено 1 / 3 информации при ответах на вопросы; допущены языковые ошибки в устной речи, ограниченный диапазон языковых средств, минимальный объем высказывания; языковые погрешности в письме, мысли не логично изложены, ошибки в формате письменной работы; допущены элементарные лексико-грамматические, орфографические и пунктуационные ошибки. |
| 2 (неудовлетворительно) | Тестируемый набрал 60 и менее процентов правильных ответов. Не было попытки выполнить тест. | коммуникативная задача не решена; выполнено менее 60 % от объема работы; неправильное понимание содержания текста, неумение систематизировать незнакомую лексику, практически отсутствует информация к заданиям по тексту; частичное выполнение речевой задачи, небольшой объем высказывания, отсутствует логика в построении высказывания в письменной речи, формат письма не соблюдается; не соблюдаются грамматические, орфографические и пунктуационные правила. Не было попытки выполнить отчет по практическому заданию. |

1.7. Перечень необходимого оборудования для выполнения практических занятий

Учебная аудитория № 206 «Кабинет иностранного языка (лингфонный)» для проведения занятий лекционного типа, занятий семинарского типа, групповых и индивидуальных

консультаций, текущего контроля и промежуточной аттестации, оснащенная оборудованием и техническими средствами обучения:

- посадочные места – 32;
- рабочее место преподавателя;
- переносная кафедра;
- ученическая доска;
- проекционный экран;
- лингафонный кабинет «Диалог-М» на 16 рабочих мест, программное обеспечение: MobiDec 3.1.0.1, звуковая система Sven 5.1;
- переносной ноутбук Lenovo B590 15.6 дюймовый экран, 2.2 ГГц тактовая частота , 4 Гб ОЗУ, 512 Мб видеопамять;
- проектор Benq MX503, максимальное разрешение 1024x768;
- общая локальная компьютерная сеть Интернет;
- программное обеспечение: операционная система Microsoft Windows7; пакеты программных продуктов Office 2007 и 2010; средство антивирусной защиты ESET Endpoint Antivirus.
- стенды по страноведению -2 шт.

ПРАКТИЧЕСКОЕ ЗАНЯТИЕ 15.

ДОСТИЖЕНИЯ И ИННОВАЦИИ В ОБЛАСТИ НАУКИ И ТЕХНИКИ.

Современные научные достижения. Технический прогресс в нашей жизни. Отработка лексического минимума. Выполнение упражнений. Введение лексических единиц, практика употребления.

Продолжительность: 180 мин.

Цель: Активизировать использование лексики в письменной и устной речи по теме: «Достижения и инновации в области науки и техники». Составить сообщение по теме: «Технический прогресс в нашей жизни».

Задания к практическому занятию:

Задание 1: Прочитайте текст и ответьте на вопросы/Read the text and answer the questions

SCIENCE AND SCIENTISTS

Part I

The word "science" comes from the Latin word "scientia", which means "knowledge". Science covers the broad field of knowledge that deals with facts and the relationship among these facts.

Scientists study a wide variety of subjects. Some scientists search for clues to the origin of the universe and examine the structure of the cells of living plants and animals. Other researchers investigate why we act the way we do, or try to solve complicated mathematical problems.

Scientists use systematic methods of study to make observations and collect facts. They develop theories that help them order and unify facts. Scientific theories consist of general principles or laws that attempt to explain how and why something happens or has happened. A theory is considered to become a part of scientific knowledge if it has been tested experimentally and proved to be true.

1. What is the text about?
2. What does the word "science" mean?
3. What do scientists search for?
4. What do the scientific theories consist of?

Задание 2. Найдите в тексте следующие английские эквиваленты/Find in the text the English equivalents

1. широкая область знаний
2. иметь дело с
3. большое разнообразие
4. происхождение вселенной
5. изучать структуру
6. сложные задачи
7. делать наблюдения
8. разрабатывать теории
9. общие принципы и законы
10. часть научного знания

Задание 3: Прочитайте текст и ответьте на вопросы/Read the text and answer the questions

SCIENCE AND SCIENTISTS

Part II

Scientific study can be divided into three major groups: the natural, social, and technical sciences. As scientific knowledge has grown and become more complicated, many new fields of science have appeared. At the same time, the boundaries between scientific fields have become less and less clear. Numerous areas of science overlap each other and it is often hard to tell where one science ends and another begins. All sciences are closely interconnected.

Science has great influence on our lives. It provides the basis of modern technology – the tools and machines that make our life and work easier. The discoveries and the inventions of scientists also help shape our view about ourselves and our place in the universe.

1. What is the text about?
2. What can scientific study be divided into?
3. Why does science have great influence on our lives?
4. What helps to shape our view about the universe?

Задание 4. Найдите в тексте следующие английские эквиваленты/Find in the text the English equivalents

1. основные группы
2. научные знания
3. границы
4. бесчисленные области науки
5. тесно взаимосвязаны
6. основа современной технологии
7. инструменты и машины
8. открытия и изобретения
9. формировать нашу точку зрения
10. сложный

Задание 5 Прочитайте статью “Новая Энергия из старых источников”/Read the Text “New Energy From Old Sources”

NEW ENERGY FROM OLD SOURCES

By J. Staff

1. The resources of fossil (ископаемое) fuel which made the industrial revolution possible and have added to the comfort and convenience of modern life were formed over a period of 600-million years. We will consume them in a few hundred years at current rates. Certain steps should be taken to find solutions of energy problems.
2. The current energy problem is the result of many complex and interrelated factors, including a world-wide demand for energy; inadequate, efforts during the recent past to develop new energy resources; delays in the construction of nuclear power plants (ядерные электро-станции), automobile changes that increase gasoline consumption. Demand must, of necessity, be moderated, and intensive efforts must be made to expand the overall energy supply.
3. But energy is available to use in practically unlimited quantities from other sources. Large amounts of energy can be received from ocean tides (приливы) and currents, from huge underground steam deposits, from the power of wind and from the heat of the Sun. The idea of heating houses with the warmth of the Sun has become popular in the last few years. Since the *U.S. News and World Report* first told about solar heated homes near Washington some years ago, many similar projects have appeared around the country. In many places schools are using solar units to provide classroom heat.
4. Most solar-heating systems coming on the market use a black surface to absorb the Sun's heat. Engineers cover the surface with glass which lets in the rays, but holds heat. The heat is transferred to water that runs through small pipes. The hot water is then circulated through the house. It is estimated that 40 million new buildings will be heated by solar energy by the year 2020. The solar cell (батарея) is another way to produce power from the Sun. It converts sunlight directly into electricity. These cells are used with great success in the space program, but remain far too expensive for widespread application. In the meantime, solar homes are being built and lived in from California to Connecticut. The next step is mass production of homes, office buildings and schools - all heated by the Sun.
5. Putting the wind to work researchers are showing great interest in the age-old windmill (мельница). Several big companies are now studying windmills. These companies are to analyze windmills

ranging from 100 to 2,000 kilowatts. The smallest would provide sufficient electricity to power several homes, the largest could provide electricity to a small village.

Задание 6: Ответьте на следующие вопросы к тексту “Новая Энергия из старых источников”, чтобы сделать краткое резюме/Answer the following questions to the Text “New Energy From Old Sources” to make a brief summary.

1. What is the title of the article?
2. Where and when was it published?
3. Who is the author of this article?
4. What is this article devoted to?
5. What is the main idea of the article?
6. How many parts does this article consist of?
7. What is spoken in the first / second / third / last part about?
8. What attention is given to new energy resources?
9. What conclusions does the author come to?
10. Is the article illustrated with drawings and schemes?
11. Whom is this article addressed to?
12. Who may this article be recommended to?
13. How would you characterize this article in your opinion?

Задание 7 Составьте аннотацию к тексту New Energy From Old Sources”:

1. The title of the text is ...
 2. The text is devoted to ...
 3. It consists of ...
 4. The first passage deals with ...
 5. The second (third, forth, etc.) passage deals with ...
 6. The main idea of the text is ...
 7. The information of the article (the text) is addressed to students (engineers, specialists, all those who are interested in) ...
 8. The article (text) may be recommended to ...
 9. The information of the article (text) is interesting (important, useful, hard to understand, rich in contents).
 10. The author comes to the conclusion that ...
- In conclusion the author says that ...

ПРАКТИЧЕСКОЕ ЗАНЯТИЕ 16.

МАШИНЫ И МЕХАНИЗМЫ. ПРОМЫШЛЕННОЕ ОБОРУДОВАНИЕ.

Современные технические устройства. Использование модальных глаголов. Развитие навыков чтения. Выполнение лексико-грамматических упражнений.

Продолжительность: 90 мин.

Цель: Составить сообщение по теме: «Современные технические устройства». Активизировать использование лексики в речи по теме: «Современные технические устройства».

Задания к практическому занятию:

Задание 1 Изучите словарь активной лексики по теме, подготовьтесь к диктанту:

1. branch - отрасль
2. mechanism - механизм
3. kinematic - кинематический
4. dynamic method - динамический метод
5. apply - применять
6. computation - применение, вычисление
7. jointly - совместно
8. strength of materials - сопротивление материалов
9. theory of Elasticity - теория упругости
10. Producing Engineering - технология производства

11. consider - рассматривать
12. productivity - производительность
13. manual labour - физический труд
14. device - механизм, прибор
15. carry out - выполнять
16. power machine - энергетическая машина
17. material working machine - технологическая машина
18. supervisory control machine - контрольно-управляющая машина
19. information machine - информационная машина
20. cybernetic machine - кибернетическая машина
21. conversion - превращение
22. property - свойство
23. location - размещение
24. inherent присущий
25. animate nature - живая природа
26. automatic transfer line - автоматическая линия
27. automatic-machine device - машина-автомат
28. transmission - transmission
29. working machine - станок
30. machine unit - машинный агрегат
31. actuator - исполнительный механизм
32. converter - преобразователь
33. executive mechanism - исполнительный механизм
34. feeder - питатель, подающий механизм
35. gaseous body - газообразное тело
36. thermal physics - тепловая физика
37. liquid body - жидкое тело
38. deal with - иметь дело с чем-либо
39. geometrical - геометрический
40. interrelation - взаимоотношения
41. acting force - действующая сила
42. structural analyses - структурный анализ
43. dynamic analyses - динамический анализ
44. intend for - предназначаться
45. investigation method - метод исследования

Задание 2. Read the text. Translate it into Russian/Прочитайте текст. Переведите на русский язык.

CLASSIFICATION OF MECHANISMS AND MACHINES

Mechanisms are widely used in all branches of modern technology. The same types of mechanisms having the same computation and design methods are used in machines of various branches.

The term "machine" covers a great number and variety of objects used by a man for labour and physiological functions. The following definition is common: "The machine is a device intended for transformation of energy, materials and information".

The machines are means of production that use the forces nature of to facilitate work. From the point of view of functions, carried out by machines, it is possible to classify all machines into the following groups:

- a) Power machines;
- b) Material-working machines;
- c) Information (supervisory control) machines;
- d) Cybernetic.

The **power machine** is a machine intended for conversion of energy from one form to another (transforming any kind of energy into mechanical one – the machine-engine, and vice versa – machine-generator).

The **material-working machine** is a machine for conversion of materials. The working machines are subdivided into transport and technological ones.

The **transport machine** is a working machine, in which conversion of materials consists only in changes of their position in space.

The **technological machine** is a working machine, in which the conversion of a material consists in changes of the form, location or properties of a material or machined object.

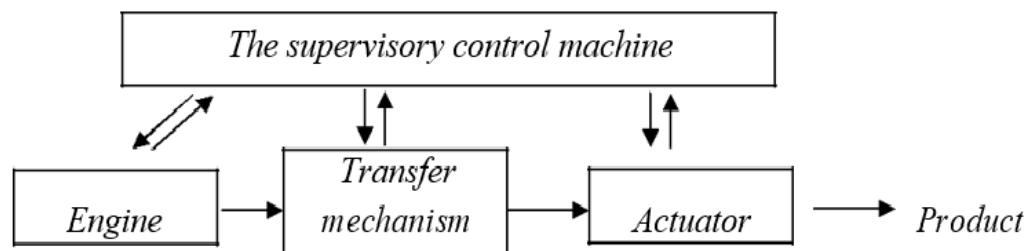
The **information machine** is a machine for conversion of information. These machines are subdivided into **supervisory control machines** and **computing** ones.

The **cybernetic machine** is a machine replacing or simulating various mechanical, physiological or biological processes, inherent to a man and animate nature.

If the processes of energy or materials conversion are carried out without direct participation of man, the machines performing such operations are named **automatic-machine devices**.

The set of the automatic-machine devices connected with each other and intended for performance of certain technological processes, is called an **automatic transfer line**.

The set of the machine-engine, transmission, working machine and supervisory control machine is called a **machine unit**. It can be represented by the diagram:



Mechanism is a system of bodies intended for conversion of motion of one or several bodies into the required motion of other ones. By the functional purpose all mechanisms are subdivided into the following kinds:

1. Mechanisms of engines and converters.
2. Transmissions.
3. Executive mechanisms (actuators).
4. Mechanisms of control and regulation.
5. Feeders, transporters, sorters of machined objects.
6. Mechanisms of the automatic count, weighing and packing.

The mechanisms which are included in the structure of a machine can incorporate firm, liquid, gaseous bodies, electrical and magnetic devices, which work according to the basic principles of mechanics, thermal physics, electrical engineering and electronics.

Задание 3. Прочитайте и переведите следующие однокоренные слова/ Read and translate the following root words.

1. Act - action - active - activity – interaction
2. Different - difference - differentiate – indifference
3. Locate - located – location
4. Apply – application
5. Engine - engineering – engineer
6. Create - creation - creative – creativity
7. Performance - performing – perform
8. Similar - similarity – similarly

9. Technology - technological - technician – technique
10. Produce - production - productivity – productive

Задание 4. Сопоставьте следующие слова с их значением/Match the words and word combinations from the columns.

| A | | B | |
|-----|----------------------------|----|-----------------------------------|
| 1. | machine elements | A. | замещать |
| 2. | branches of engineering | B. | средства |
| 3. | automatic counts | C. | взаимоотношение |
| 4. | converter | D. | автоматический приборный механизм |
| 5. | transmission | E. | сортировочное устройство |
| 6. | replace | F. | детали машин |
| 7. | automatic-machine device | G. | отрасли инженерии |
| 8. | sorter of machined objects | H. | коробка передач |
| 9. | means | I. | автоматический подсчет |
| 10. | interrelation | J. | преобразователь |

Задание 5. Заполните пропуски подходящими по смыслу словами/ Fill in the gaps with appropriate words.

| | | | | |
|-------------|----------------------------|----------------|-------------------|----------|
| a device | energy | material | a working machine | property |
| information | an automatic transfer line | a machine unit | | |

1. The machine is __ intended for transformation of energy, materials and information.
2. The power machine is a machine intended for conversion of __ from one form to another.
3. The material-working machine is a machine for conversion of __.
4. The transport machine is __, in which conversion of materials consists only in changes of their position in space.
5. The technological machine is a working machine, in which the conversion of a material consists in changes of the form, location or __ of a material or machined object.
6. The information machine is a machine for conversion of __.
7. The set of the automatic-machine devices connected with each other and intended for performance of certain technological processes, is called __.
8. The set of the machine-engine, transmission, working machine and supervisory control machine is called __.

Задание 6. Найдите в тексте и выпишите определения следующих слов/ Find in the text and write down the definitions of the following words.

1. A machine
2. A mechanism

Задание 7. Ответьте письменно на следующие вопросы к тексту/ Answer the following questions in writing.

1. What types of mechanisms are used in machines of various branches?

2. In what groups is it possible to classify all machines?
3. What are all mechanisms subdivided into?
4. What can the mechanisms which are included in the structure of a machine incorporate?

ПРАКТИЧЕСКОЕ ЗАНЯТИЕ 17. ИСТОРИИ ВЕЛИКИХ ОТКРЫТИЙ.

Работа с текстом. Повторение числительных. Выполнение тренировочных упражнений по теме.

Продолжительность: 90 мин.

Цель: Составить письменное и устное сообщение по теме: «Истории великих открытий». Активизировать использование в речи лексики по теме: «Истории великих открытий». Совершенствовать грамматические навыки.

Задания к практическому занятию:

Задание 1. Прочитайте текст, обращая внимание на перевод выделенных слов/ Read the text, paying attention to the translation of the selected words.

In recent years, **scientific and technological developments have drastically changed life** on our planet as well as our **views** both of ourselves as individuals in society and of **the Universe** as a whole.

Today, science and technology **are closely related**. Many modern technologies such as **nuclear power** and **space flights** depend on science and the **application of scientific knowledge and principles**. Each **advance in pure science creates new opportunities** for the development of new ways of making things to be used in daily life. In turn, technology provides science with new and more accurate **instruments for its investigation and research**.

Technology refers to the ways in which people use discoveries to **satisfy needs and desires**, to **alter the environment**, to **improve their lives**. **Throughout human history**, men and women **have invented tools, machines, materials and techniques**, to **make their lives easier**.

Of course, when we speak of technology today, we **are looking at it in a much narrower sense**. Generally, we mean **industrial technology**, or the technology that began about 200 years ago with the **development of power-driven machines, growth of the factory system, and mass production of goods** that **has created the basis for** our modern society. Today we often say that we live in **an age of science and technology**. **According to one estimate**, 90% of all the scientists who ever lived, were alive and active in the 1970s. This **increased scientific activity** has brought new ideas, processes, and **inventions** in ever-growing amount.

The scientific revolution that began in the 16th century was the first time that science and technology began to work together. Thus, Galileo, who **made revolutionary discoveries in astronomy and physics**, also built an improved telescope and **patented** a system of lifting water. However, it was not until the 19th century that technology truly was **based on science** and **inventors began to build on the work of scientists**. For example, Thomas Edison built on the **early experiments** of Faraday and Henry in his invention of the first practical system of **electrical lighting**. So too, Edison **carried on his investigations** until he found the carbon filament for the **electric bulb** in a **research laboratory**. This was the first true **modern technological research**.

In a sense, the history of science and technology is the history of all humankind.

Задание 2. Ответьте письменно на следующие вопросы/ Answer the following questions in writing.

1. What role has scientific and technological development played in man's life?
2. What proves that science and technology are closely related today?
3. What does the term «technology» refer to?
4. What does the term «industrial technology» mean?
5. How is scientific activity in the 1970s estimated?
6. What facts prove that the scientific revolution of the 16th century was the first time that science and technology began to work together?

7. What was the first true modern technological research?
8. How can the history of humankind be described?

Задание 3. Прочитайте текст/ Read the text

INVENTORS AND THEIR INVENTIONS

Thomas Edison is known as one of the greatest inventors of his time. He invented so much that it is difficult to say which of his achievements is the greatest. He was an experimenter and a practical man more than a theoretician. In 1868 Edison built his first patented invention - an electromagnetic device. All his inventions were the result of hard work. He sometimes made thousands of experiments. According to his words the idea that a genius works only by inspiration was absurd. "Genius is 2 per cent inspiration and 98 per cent perspiration," he often said.

Samuel Colt was an American. He lived in the 19th century. In 1836 he designed and patented a pistol. It was a pistol with a revolving barrel that could fire 6 bullets one after the other. It was the first pistol of its kind. Later there came many other pistols with 6 bullets.

Rudolf Diesel was a German engineer. He was born in 1858 and died in 1913. In 1897 he invented a new internal combustion engine. This engine is known as a diesel and it began a transport revolution in cars, lorries, trains and ships. The main advantage of diesels is that they run on rather cheap fuel.

Samuel Finley Morse was born in 1791. He died in 1872. He was a portrait painter. Then he became the inventor. For 12 years he tried to perfect the telegraph and he was a success. Later he invented the telegraphic dot-and-dash alphabet. Now it is known as Morse code. Morse code was not only one in America of that time. There were some others. But now we use Morse code all over the world.

Charles Makintosh lived from 1766 to 1843. He lived in Scotland and was a chemist by profession. He worked in a textile industry. In 1823 he developed a rubber solution. This rubber solution was used for raincoat production. Raincoats with this rubber solution didn't allow water to penetrate. These raincoats were called makintoshes. Now people all over the world use them in spring and in autumn.

Charles Rolls was born in 1881 in Great Britain. He died in 1910. He was an aristocrat and businessman. He was especially interested in cars. Once he met another enthusiast of cars Henry Royce. Henry Royce was a famous car engineer. They decided to design the most comfortable and reliable car. At the beginning of the 20th century it seemed to be a fantasy. But they worked hard and at last in 1907 they created the world-famous Rolls-Royce car. It was so comfortable and reliable that one of the models of Rolls-Royce cars "Silver Ghost" hadn't changed greatly for 20 years since 1907.

Gotlif Daimler and Charles Benz were two inventors. They lived in Germany. They were both interested in car production. At the end of the 19th century each of them designed a car. At the same time, they organized two independent firms to produce them.

All the cars produced by the firm of Daimler were called "Mercedes". Mercedes was a daughter's name of one of the stockholders of the firm. This man saved the firm of Daimler from the financial crisis at the beginning of the 20th century. But after the World War I the firm of Daimler met financial difficulties again. This time it had to join the firm of Benz. Since that time all the cars produced by the firm "Daimler-Benz" have been called "MercedesBenz".

Задание 4. Выберите из следующего списка изобретателей, которые дали свои имена своим изобретениям. Поставьте + напротив фамилии/ Choose from the following list of inventors who have given their names to their inventions. Put a + next to the last name.

- E. Rutherford
- C. Makintosh
- S. Colt
- S. Morse
- L.Landau
- W.Thomson
- R.Diesel
- C.Rolls

H.Cavendish
C.Benz
T. Edison

Задание 5. Заполните таблицу информацией из текста/ Fill in the table with information from the text.

| Inventor Изобретатель | Invention Изобретение | Year of invention Год изобретения | Country Страна |
|--------------------------|--------------------------|--------------------------------------|-------------------|
| | | | |

Задание 6. Найдите в тексте и выпишите знаменитое высказывание Эдисона о том, кто такой гений/ Find in the text and write down Edison's famous statement about who a genius is..

6. Чтение текста «Technological Progress» с целью извлечения общей информации.

Задание 7. Прочитайте текст и ответьте на вопросы/Read the text and answer the questions

TECHNOLOGICAL PROGRESS

For centuries people have been inventing things to make life easier. Among the greatest inventions of the past are the automobile, the steam engine, the electricity, the telephone and television. Since the beginning of the 20th century people have made a huge step in technology. Now we live in flats, talk to people who live in other parts of the world, travel from one place to another by plane. All these things are a product of technological progress and it is still growing rapidly.

Today we live in the world of machines and computers. Every day more and more gadgets appear and all of them make our life easier. Some of the new inventions have become so affordable and common, that now people cannot imagine life without them. For example, the mobile phone has turned from an expensive portable phone into an inexpensive data, e-mail, and voice service that almost anyone can afford. At the speed that mobile phones are evolving they may one day replace in-home phone services. Years ago mobile phones were bulky and required large batteries in a carrying case. Today's mobiles fit in a pocket and can replace a computer.

Another example of modern high-tech inventions is the Internet. Almost every company in the world has its own website. The Internet provides any kind of information on any topic. Of course, some of the sources are not reliable, but the Internet gives a very good opportunity to shop, book rooms and flights, watch films, listen to music and many other things. The Internet also gives an opportunity to make new friends and find old ones thanks to social networking sites such as Facebook or Vkontakte.

Computer technology has influenced production processes and made work easier. Toy companies, for example, incorporate computer chips in toys which make them move, talk and sing on their own. The car industry has computer systems installed in cars and they give information on car's condition, including tire pressure, headlights or the temperature inside and outside. Printing has become much easier with the computer-based printing machines.

Tablet PCs are becoming more and more popular today. They are much lighter than notebooks or netbooks and they contain all the software that is needed for business, studies and pleasure. EBook readers are a new invention too. This is a very convenient gadget that allows uploading books in different electronic formats. Instead of carrying one paperback book in a bag, you can carry one eBook reader with thousands of books on it.

Surely, these new inventions are not the last ones that humanity has developed and many others will be developed year upon year.

Answer the following questions.

1. Why have people been inventing new things for many centuries?
2. What are the basic greatest inventions of the past?
3. What does the modern world look like?

4. How can you describe technological progress now?
5. What can you say about mobile phones as inventions?
6. Have you got a mobile phone?
7. Can you live without a mobile now? Why (not)?
8. Do you consider the Internet a great invention? Why (not)?

ПРАКТИЧЕСКОЕ ЗАНЯТИЕ 18. ОБУЧЕНИЕ СОСТАВЛЕНИЮ КОНСПЕКТА СООБЩЕНИЯ.

Использование вопросительных предложений. Активизация лексических единиц по теме.

Продолжительность: 90 мин.

Цель: Обучить навыкам письменной речи на основе составления конспекта прочитанного иноязычного текста.

Задания к практическому занятию:

**Задание 1: Переведите информацию об алгоритме учебных действий над текстом/
Familiarize yourself with the following information.**

1. Read the entire text to compose a presentation knowledge about its main content.
2. Break it down into semantic segments (paragraph by paragraph).
3. Find keywords and sentences in each paragraph.
4. Highlight the main idea of the text.
5. Give a heading to the paragraph.
6. Transform complex sentences that reflect the main thoughts of the author, in simple ones.
7. Briefly write the content of each paragraph.
8. Write an outline of the text.
9. Write a finished message outline and read it aloud.
10. Tell us about your message.

Задание 2: Прежде чем читать текст о выдающемся ученом Исааке Ньютоне, запомните несколько слов и словосочетаний/Before reading text about the outstanding scientist, Isaac Newton, memorize some words and words combinations:

1. calculus (n) исчисление
2. reflect (v) отражать
3. put (v) smth подвергнуть что-либо испытанию
4. test (v) проверить
5. in accordance with в соответствии с
6. the law of gravitation закон тяготения
7. universe square law закон равенства действия и противодействия
8. the differential and integral calculus дифференциальное и интегральное исчисление
9. Elements of Natural Philosophy Математические начала натуральной философии
10. Binomial Theorem бином Ньютона

ISAAC NEWTON

The great English scientist Isaac Newton was born in the village of Woolthorpe, not far from the university town Cambridge on December 25, 1642. Little Isaac was left to the care of his mother, grandmother and uncle who sent him to school.

In his early years young Isaac made various things. He made a clock that worked by water. He also made a sun-dial. When Isaac grew older, he took a considerable interest in mathematics. His ability as mathematician and physicist was very important. His first physical experiment was carried out when he was sixteen years old.

On June 5, 1661 Newton entered the University of Cambridge where he studied mathematics. Soon he became famous for his contribution to mathematics by the time he was twenty-one. When Newton was twenty-two years old he began studying the theory of gravitation. In 1665, while he was on a visit in his native village, he saw an apple fall from a tree and began wondering what force made the apple fall.

At Cambridge Newton read with great interest the writings of Galileo, he knew the geometry of Descartes, he worked out the methods of calculus, go when he began to think of gravity extending to the orbit of the moon he immediately put this idea to the test of calculation.

Newton performed many experiments with light and found that white light was made up of rays of different colors. He invented a reflecting telescope, that was very small in diameter but magnified objects to forty diameters. Newton developed a mathematical method which is known as the Binomial Theorem and also differential and integral calculus.

In 1669 Newton was appointed professor and began lectures on. mathematics and optics at Cambridge and continued his work on the problem of gravitation. In 1673 Newton gathered together all his earlier calculations and succeeded in completing his whole theory. He examined the attraction of one mass by another. He showed that a massive sphere here attracts another as if the whole mass were in the center. This was of great importance it enabled Newton to treat the problems of the sun, the moon and earth like problems of geometry. He at last justified the method of treatment which he had first adopted for the problem of the Earth and Moon.

The proof of his universe square law was not complete. He had demonstrated that the gravitation of the earth extends as far as the moon and keeps it in its orbit. He demonstrated that this pull is in accordance with the same law as that by which a stone falls to the ground, namely gravity. Newton's great work Elements of Natural Philosophy was published only in the middle of 1687.

Newton's law of universe squares joined in one simple mathematical statement the behaviour of the planets as well as 42 of bodies on this earth. It was the first synthesis of physical knowledge. As such his contribution to science is unique.

Isaac Newton died in 1727 at the age of 85. He was buried with honours as a national hero. It was the first time that national honors of this kind had been accorded in England to a man of science.

Задание 3: Ответьте на следующие вопросы/Answer the following questions.

1. Was Isaac Newton a bright child?
2. When did Newton begin to study theory of gravitation?
3. What did Newton find about white light?
4. How did Newton demonstrate his discovery?
5. What did Newton's law of universe square join?

Задание 4: Составьте собственное резюме к тексту «Исаак Ньютон». При его создании следуйте инструкциям алгоритма из упражнения 1/Make your own abstract to the Text "Isaac Newton". While making it follow instructions of Algorithm 1 from Exercise 1.

Задание 5: Прочтите следующий текст, а затем составьте к нему свое собственное резюме. При составлении аннотации следуйте инструкциям алгоритма из упражнения 1/Read the following text and then make your own abstract to it. While making your abstract follow instructions of Algorithm from Exercise 1.

OUTSTANDING RUSSIAN SCIENTISTS

Outstanding personalities in RussiaThe names of many Russian scientists and inventors are known in all parts of the world. The contribution of many Russian biologists, physicists, chemists, physiologists etc. to the development of international science is really great.

The names of Lomonosov, Mendeleev, Sechenov, Popov, Tsiolkovski, Korolev, Pavlov, Sakharov are internationally acclaimed. There are very many branches of science where the Russian inventors and scientist have made great discoveries bringing the mankind to the whole new level of its development.

The first university in Russia was found by the first Russian philosopher of nature (natural scientist), historian, painter and literary figure at once. His name was Lomonosov. He has written many scientific works on different topics: on history, physics, astronomy, biology, geology, philology, chemistry, mineralogy. He also was a very important statesman.

The Russian scientist Mendeleev discovered the Periodic Table of the Elements. It became the basic law for future discoveries in chemistry.

In 1895 the Russian scientist Popov invented the radio.

The names of such great Russian physiologists as Sechenov and Pavlov are known worldwide.

The scientific theory of space flights was worked out by the Russian scientist Tsiolkovski. He also called into being a new research field – astronautic science (star navigation).

The Russian scientist, designer and manager of space system production Korolev constructed the first artificial satellite. Through his ideas and scientific inventions the first manned space flight became possible. The Russian spaceman Gagarin was the first human who orbited our Earth in 1961.

ПРАКТИЧЕСКОЕ ЗАНЯТИЕ 19. ОБУЧЕНИЕ СОСТАВЛЕНИЮ АННОТАЦИИ НА ОСНОВЕ ПРОЧИТАННОГО ТЕКСТА.

Использование клише для составления аннотации. Активизация лексических единиц по теме:
«Ученые с мировым именем».

Продолжительность: 90 мин.

Цель: Обучить навыкам письменной речи на основе составления конспекта прочитанного иноязычного текста.

Задания к практическому занятию:

Задание 1: Прочитайте переведите текст/ Read the text

“FAMOUS RUSSIAN SCIENTISTS AND THEIR DISCOVERIES”

Mikhail Lomonosov made many discoveries in various fields: he is regarded as the first to discover the law of mass conservation (1760) and to establish mechanistic caloric theory and the chemistry of minerals and glass. Lomonosov is the founder of Russia's first classical university – Moscow State University (1755).

Nikolay Lobachevsky - The founder of hyperbolic geometry (1829) which was later recognized as a valid alternative to Euclidean geometry. Graduated from Kazan University where he later held the position of professor and then rector.

Pafnuty Chebyshev made several breakthrough discoveries in mechanics and mathematics. Chebyshev designed over 40 mechanisms still used in the modern automotive industry and instrumentation.

Sofia Kovalevskaya made a series of discoveries in mathematics. She was awarded the Prize of the Royal Swedish Academy of Sciences for her thesis on integrable rigid body motion (1888).

Dmitri Mendeleev formulated the Periodic Law and created his own version of the periodic table of elements (1869). The system that he devised made it possible to correct the properties of some elements that had already been discovered and also to predict the properties of elements yet to be discovered. His discovery is viewed as the most significant contribution to materials chemistry.

Alexander Popov was one of the first to find practical applications of electromagnetic waves, particularly in wireless communication. He designed and built a state-of-the-art radio receiver that was unique for its time (1895).

Sergey Botkin created the theory of a living organism as a unified whole. He was the first to suggest that catarrhal jaundice (hepatitis) or Botkin's disease was caused by an infection.

Nikolay Pirogov is considered the founder of field surgery, regional anatomy and the founder of the Russian school of anesthesia. Surgery became a science thanks to him. Ivan Pavlov is the founder of physiology of higher nervous activity. He is the first Russian Nobel Prize winner (1904). He received awards for physiology of digestion.

Élie Metchnikoff is the founder of comparative pathology, evolutionary fetology and immunology. Mechnikov discovered phagocytosis. Mechnikov is the founder of gerontology. He was awarded a Nobel Prize for his contribution to the study of the immune system (1908).

Nikolay Zhukovsky is the founding father of Russian aeronautics. He is also the founder of modern hydrodynamics. A graduate and later a professor at Moscow State University.

Vladimir Zworykin is an engineer and inventor. Born and educated in Russia. One the founding fathers and pioneers of television. He invented the cathode ray tube (1929), iconoscope (1931), electrooptical television system (1933) and laid the basis for colour television (1940s).

Pavel Cherenkov is the author of several groundbreaking discoveries in physical optics, nuclear and high-energy physics. He was awarded a Nobel Prize for Physics in 1958.

Nikolay Vavilov was a botanist and geneticist, best known for establishing the scientific bases of selection and the study of world centres of the origin of cultivated plants. He is the author of the doctrine of plant immunity.

Lev Landau is the author of the "Course of Theoretical Physics", which has been republished many times in 20 languages. He made major contributions to all spheres of physical science, from quantum mechanics to plasma physics. In 1962 he received the Nobel Prize for Physics for his research of the superfluidity of helium.

Nikolay Basov is one of the creators of the first quantum generator and a range of lasers. Nobel Prize winner for Physics in 1964. A graduate of the Moscow Engineering Physics Institute.

Alexander Prokhorov is an inventor of laser technologies. He created a range of lasers. Nobel Prize winner for Physics in 1964.

Pyotr Kapitsa is a winner of the Nobel Prize for Physics in 1978 for his discovery of superfluidity of liquid helium. He designed a commercial installation for gas liquefaction. A graduate of the Peter the Great St. Petersburg Polytechnic University. One of the founders of the Moscow Institute of Physics and Technology.

Leonid Kantorovich is a mathematician, economist, and the founder of linear programming. A winner of a Nobel Prize for Economics in 1975.

Nikolay Semyonov is one of the founders of chemical physics. He is mostly known for his research of chain reactions. A winner of a Nobel Prize for Chemistry in 1958. He graduated from the department of physics of Petrograd University and taught at Tomsk Polytechnic Institute and Tomsk University. One of the founders of the Moscow Institute of Physics and Technology.

Igor Kurchatov is author of several breakthrough discoveries in nuclear physics. Among them: the first nuclear reactor in Europe, the first Russian A-bomb and the first fusion bomb. In 1954 he was in charge of building the first nuclear power plant in Obninsk, USSR

Andrei Sakharov is a pioneer of controlled thermonuclear research. One of the leading figures in the Soviet thermonuclear bomb project (1953). A renowned human rights activist and winner of the Nobel Peace Prize in 1975.

Mikhail Mil is aerospace engineer and scientist. The creator of the 'Mi' helicopter series. A graduate of Tomsk Polytechnic Institute.

Andrei Tupolev is aircraft designer. In 1968, Tupolev introduced the world's first supersonic airliner, the Tu-144. Over 70 types of aircraft were designed and put into mass production under his supervision.

Svyatoslav Fyodorov is an ophthalmologist and microsurgeon. In 1962, in cooperation with Valery Zakharov, he created one of the world's most rigid intraocular lenses. In 1973, he developed a new surgical technique to treat the early stage of the glaucoma. Consequently his method became widely used.

Zhores Alferov is an author of over 500 scientific papers and around 50 inventions in semiconductor and quantum electronics. In particular, Alferov invented the first stable transistor. He was awarded a Nobel Prize for Physics in 2000. A graduate of the Leningrad Electrotechnical Institute.

Grigori Perelman is one of the most renowned contemporary mathematicians. He solved the Poincaré conjecture, one of the seven Millennium Prize Problems (2002).

Andre Geim and Konstantin Novoselov graduates of the Moscow Institute of Physics and Technology. Winners of a Nobel Prize for Physics in 2010 for their study of graphene, the material which is supposed to define the future of electronics.

Alexei Starobinsky is a pioneer of the "inflation theory" that explains the birth of the universe. Winner of the Kavli Prize for Astrophysics (2014).

Rashid Sunyaev is one of the authors of the theory currently known as the Sunyaev-Zel'dovich effect under which electrons associated with gas in galaxy clusters gradually scatter cosmic microwave background radiation. Winner of the Kyoto Prize (2011), an award given for making the world better.

Mikhail Lukin graduate of the Moscow Institute of Physics and Technology. Professor at Harvard University. He proved that a beam of light can be halted in an environment and then controlled with a laser. The technology he developed can be used in quantum computers – a new step in the technological development of humanity.

Artem Oganov graduate of Lomonosov Moscow State University who worked at the Moscow Institute of Physics and Technology. Professor at Stony Brook University (New York). He is known

mostly for his work on the discovery of computational materials and crystal structure prediction. He holds numerous prestigious prizes, including an ETH Latsis Prize, Research Excellence Medal of the European Mineralogical Union, and three most-cited paper awards from Elsevier. He created laboratories in China and in Russia.

Dmitry Svergun graduate of Lomonosov Moscow State University. Gained worldwide recognition for new practical applications of X-ray radiation. Professor, Habil. PhD. He is the head of the European Molecular Biology Research Laboratory in Hamburg.

Vladimir Krasnopolsky made several discoveries concerning our Solar System. He was one of the creators of spectrometers for the first Soviet interplanetary probes. He discovered the ozone layer, helium and methane in the atmosphere of Mars.

Eugene Kaspersky is a world-renowned expert in cyber security. He is the creator of anti-virus software that is designed to protect users against computer viruses, trojans, spyware, and unknown threats. Eugene Kaspersky is listed by Foreign Policy as one of the Top-100 Global Thinkers of 2012. He holds an Honorary Doctorate of Technology degree from Plymouth University.

Russia is the native country of many renowned scientists. They made discoveries in various fields, from physics to ophthalmology, and also found practical application of their theories. People across the world use their inventions.

Задание 2 Составьте аннотацию к тексту “FAMOUS RUSSIAN SCIENTISTS AND THEIR DISCOVERIES”

1. The title of the text is ...
2. The text is devoted to ...
3. It consists of ...
4. The first passage deals with ...
5. The second (third, forth, etc.) passage deals with ...
6. The main idea of the text is ...
7. The information of the article (the text) is addressed to students (engineers, specialists, all those who are interested in) ...
8. The article (text) may be recommended to ...
9. The information of the article (text) is interesting (important, useful, hard to understand, rich in contents).
10. The author comes to the conclusion that ...

ПРАКТИЧЕСКОЕ ЗАНЯТИЕ 20.

СОСТАВЛЕНИЕ РАССКАЗА ПО МАТЕРИАЛУ ЗАНЯТИЯ И КРАТКАЯ ПЕРЕДАЧА ЕГО СОДЕРЖАНИЯ.

Активизация лексических единиц по теме. Выполнение лексико-грамматических упражнений.

Продолжительность: 180 мин.

Цель: Обучить навыкам устной речи на основе составления конспекта прочитанного иноязычного текста.

Задания к практическому занятию:

Задание 1: Прочитайте переведите текст/ Read the text

EVGENY KASPERSKY

Eugene Kaspersky was born 4 October 1965 in Novorossiysk, USSR.

Eugene Kaspersky is a world-renowned cybersecurity expert and successful entrepreneur. He is a co-founder and the Chief Executive Officer of Kaspersky Lab, the world's largest privately-held vendor of endpoint protection and cybersecurity solutions.

Eugene began his career in cybersecurity accidentally when his computer became infected with the 'Cascade' virus in 1989. Eugene's specialized education in cryptography helped him analyze the encrypted virus, understand its behavior, and then develop a removal tool for it. After successfully removing the virus, Eugene's curiosity and passion for computer technology drove him to start analyzing more malicious programs and developing disinfection modules for them. This exotic collection of antivirus modules would eventually become the foundation for Kaspersky Lab's antivirus database.

Today the database is one of the most comprehensive and complete collections in cybersecurity, used in detecting and preventing systems from being infected by more than 500 million malicious programs.

Further pursuing his passion for defensive technologies, in 1990 Eugene started gathering a team of like-minded enthusiast researchers to create the AVP Toolkit Pro antivirus program, which four years later was recognized by the University of Hamburg as the most effective antivirus software in the world.

Wishing to combine their successful track record of antivirus programming with their entrepreneurial vision, Eugene and his colleagues decided to establish their own independent company. In 1997 Kaspersky Lab was founded, with Eugene heading the company's antivirus research. In 2007 he was named Kaspersky Lab's CEO.

Today Kaspersky Lab is one of the fastest growing IT security vendors worldwide, operating in almost 200 countries and territories worldwide. The company employs more than 3,800 professionals and IT security specialists in 35 dedicated regional offices across 31 countries, and its cybersecurity technologies protect over 400 million users worldwide.

Kaspersky Lab's globally renowned team of experts has investigated some of the most complex and sophisticated cyberattacks ever known, including Stuxnet, Flame, and Red October. The company also cooperates extensively with INTERPOL, Europol, and national police bodies to actively assist them in their fight against cybercrime.

Eugene has an Honorary Doctorate of Science from the UK's Plymouth University. He regularly gives both lectures on cybersecurity at universities around the globe, and keynotes at leading conferences and industry events.

Eugene is both a passionate traveler and dedicated devotee of wild nature and adventure-tourism. He is also a talented photographer, which assists in his prolific chronicling of his exploits in his blog – from polar expeditions and glacier crossings to volcano scaling and jungle trekking.

Задание 2:Прочитайте переведите текст/ Read the text

ADA LOVELACE

To say she was ahead of her time would be an understatement. Ada Lovelace earned her place in history as the first computer programmer — a full century before today's computers emerged. She couldn't have done it without British mathematician, inventor and engineer Charles Babbage. Their collaboration started in the early 1830s, when Lovelace was just 17 and still known by her maiden name of Byron. (She was the only legitimate child of poet Lord Byron.) Babbage had drawn up plans for an elaborate machine he called the Difference Engine — essentially, a giant mechanical calculator. In the middle of his work on it, the teenage Lovelace met Babbage at a party.

There, he showed off an incomplete prototype of his machine. According to a family friend who was there: "While other visitors gazed at the working of this beautiful instrument with the sort of expression. . . that some savages are said to have shown on first seeing a looking-glass or hearing a gun. . . Miss Byron, young as she was, understood its working, and saw the great beauty of the invention."

It was mathematical obsession at first sight. The two struck up a working relationship and eventual close friendship that would last until Lovelace's death in 1852, when she was only 36. Babbage abandoned his Difference Engine to brainstorm a new Analytical Engine — in theory, capable of more complex number crunching — but it was Lovelace who saw that engine's true potential.

The Analytical Engine was more than a calculator — its intricate mechanisms and the fact that the user fed it commands via a punch card meant the engine could perform nearly any mathematical task ordered. Lovelace even wrote instructions for solving a complex math problem, should the machine ever see the light of day. Many historians would later deem those instructions the first computer program, and Lovelace the first programmer. While she led a raucous life of gambling and scandal, it's her work in "poetical science," as she called it, that defines her legacy.

In the words of Babbage himself, Lovelace was an "enchantress who has thrown her magical spell around the most abstract of Sciences and has grasped it with a force which few masculine intellects. . . could have exerted over it."

Задание 3 Составьте аннотацию к тексту EVGENY KASPERSKY/ADA LOVELACE

1. The title of the text is ...
 2. The text is devoted to ...
 3. It consists of ...
 4. The first passage deals with ...
 5. The second (third, forth, etc.) passage deals with ...
 6. The main idea of the text is ...
 7. The information of the article (the text) is addressed to students (engineers, specialists, all those who are interested in) ...
 8. The article (text) may be recommended to ...
 9. The information of the article (text) is interesting (important, useful, hard to understand, rich in contents).
 10. The author comes to the conclusion that ...
- In conclusion the author says that ...

ПРАКТИЧЕСКОЕ ЗАНЯТИЕ 21. НАЦИОНАЛЬНЫЕ И МЕЖДУНАРОДНЫЕ ВЫСТАВКИ.

Составление рассказа по материалу занятия. Обучение монологической речи. Активизация лексических единиц по теме. Выполнение лексико-грамматических упражнений.

Продолжительность: 90 мин.

Цель: Обучить навыкам письменной и устной речи на основе составления сообщения по теме: «Национальные и международные выставки». Активизировать употребление в речи лексики по теме: «Национальные и международные выставки».

Задания к практическому занятию:

Задание 1: Запомните следующие слова и словосочетания. Используйте их в качестве словаря для перевода последующих тематических текстов/ Remember the following words and word combinations.

- | | |
|-----------------------|--------------------------------|
| 1. to advertise | рекламировать |
| 2. agriculture | сельское хозяйство |
| 3. to conduct | проводить |
| 4. cooperation | сотрудничество |
| 5. customer | покупатель, клиент |
| 6. demand | потребность |
| 7. employee | сотрудник |
| 8. motto | девиз |
| 9. environment | окружающая среда |
| 10. officials | официальные лица |
| 11. scope | сфера, объем, диапазон |
| 12. showpiece | экспонат |
| 13. visitor | посетитель |
| 14. to fasten | укреплять |
| 15. to negotiate with | вести переговоры |
| 16. to participate | участвовать, принимать участие |
| 17. to purchase | покупать, покупка |
| 18. to require | требовать |
| 19. to sale | продавать |
| 20. to be crowded | быть переполненным |
| 21. basically | в основном |

Задание 2: Переведите на русский язык/Translate into Russian.

- 1) The number of companies and countries participating in such exhibitions;
- 2) the scope of exhibitions;
- 3) a wide range of showpieces;
- 4) the important achievements in different fields of

science, industry and agriculture; 5) visitors of the exhibitions; 6) to require an individual approach to the demonstration of stands; 7) employees of different companies; 8) to fasten the friendship among different nations and countries; 9) national and international exhibitions; 10) to be usually crowded with different visitors.

Задание 3: Прочтите текст, чтобы ответить на следующие вопросы/Read the text to answer the following questions.

- 1) When are many national and international specialized exhibitions held?
- 2) What do the present exhibitions include?
- 3) Whom can the participants of these exhibitions negotiate with?
- 4) What kind of mottoes do exhibitions have?
- 5) Why is the first day of the exhibition closed to ordinary visitors?

TEXT **NATIONAL AND INTERNATIONAL EXHIBITIONS**

Very many national and international specialized exhibitions are held every year in different countries of our world. From year to year the number of companies and countries participating in such exhibitions is growing. The scope of exhibitions is also getting larger.

The present exhibitions include a wide range of showpieces showing the important achievements in different fields of science, industry and agriculture of different countries.

These exhibitions are usually crowded with different visitors with their different interests and demands. The participants of these exhibitions can negotiate with their customers, sale their goods and purchase the goods they need.

A national or an international exhibition is a way to advertise the products of a company. Such exhibitions usually have their mottoes, for example: *people and environment, economical cooperation, technical progress* and so on. The international exhibitions fasten the friendship among different nations and countries.

Visitors of the exhibitions are mainly officials, professionals, specialists and interested visitors. Each type of guest requires an individual approach to the demonstration of stands. For example, specialists are employees of different companies; they are interested in contracts, conduct market research, so basically the first day of the exhibition is closed to ordinary visitors.

Задание 4: Сопоставьте глаголы и словосочетания в соответствии с текстом/ Match the verbs and word combinations according to the text.

- | | |
|------------------------|------------------------------|
| 1. to advertise | 1. market research |
| 2. to conduct | 2. with their customers |
| 3. to be interested in | 3. the friendship |
| 4. to fasten | 4. contracts |
| 5. to negotiate | 5. the products of a company |

Задание 5: Завершите предложения в соответствии с текстом/Complete the sentences according to the text.

- 1) Year by year the number of companies and countries participating in such exhibitions is ____.
- 2) Visitor requires an individual approach to the demonstration of ____.
- 3) The scope of exhibitions is also getting ____.
- 4) Such exhibitions usually have their ____.
- 5) Specialists are employees of different ____.

Задание 6: Ознакомьтесь со следующей информацией. С каким человеком можно встретиться на выставке?/ Familiarize yourself with the following information. What person can meet at the exhibition?

- 1) a **visitor** – посетитель (лицо, которое посещает выставочное мероприятие с целью ознакомления с выставленной продукцией без профессиональных и коммерческих интересов);

- 2) **an exhibitor** – экспонент (лицо, которое представляет на выставке свою продукцию с целью поиска ее покупателей или партнеров для совместной деятельности);
- 3) **an expert** – специалист (лицо, которое посещает выставочное мероприятие с целью ознакомления с выставленной продукцией, преследуя свои профессиональные или коммерческие интересы);
- 4) **an exhibition contractor** – организатор выставки (физическое или юридическое лицо, которое арендует на краткосрочной или долгосрочной основе выставочные площади у их собственника и передает их в субаренду другим лицам, включая выставочные предприятия).

What can see at the exhibition?

- 1) **an exposition** – экспозиция, выставка (демонстрация товаров и услуг с использованием специального выставочного оборудования одним или несколькими экспонентами одновременно);
- 2) **a stand** – стенд (специальное помещение из легко разбираемых конструкций, построенное на выставочной площади по заказу экспонента на время проведения выставочного мероприятия).

Задание 7: Угадай правильно! Прочтите некоторые определения, а затем найдите в них противоречие. Сопоставьте термины и их определения/ Guess right! Read some definitions and then find a contradiction in them. Match the terms and their definitions.

- 1) **A visitor** is a person who attends an exhibition event in order to get acquainted with the exhibited products pursuing their professional or commercial interests.
- 2) **An expert** is a person who attends an exhibition event in order to get acquainted with the exhibited products without professional and commercial interests.
- 3) **A stand** is a demonstration of goods and services with the use of special exhibition equipment by one or several exhibitors at the same time.
- 4) **An exhibitor** is a natural or legal person who rents exhibition space on a short-term or long-term basis from their owner and subleases it to other persons including exhibition companies.
- 5) **An exposition** is a special room of easily disassembled structures built on the exhibition area at the request of the exhibitor at the time of the exhibition.
- 6) **An exhibition contractor** is a person who presents his products at the exhibition in order to find its customers or partners for joint activities.

Задание 8 : Переведите текст на английский язык/Translate the text into English.

Национальные и международные выставки с каждым годом становятся популярными. Они проводятся в разных странах. Количество фирм, принимающих в них участие, растёт с каждым годом. Также увеличиваются объёмы выставленных экспонатов. Экспозиция выставок включают в себя большое разнообразие экспонатов и стендов, которые показывают достижения разных государств и компаний в различных сферах деятельности, таких как, в науке, промышленности или в сельском хозяйстве. Как правило, эти выставки посещают лица со всевозможными интересами и потребностями, преследующие свои профессиональные или коммерческие цели. Так, например (thus) на выставках можно встретить специалистов, которые посещают их с целью ознакомления выставленной продукции. Или экспонентов, лиц, которые представляют свою продукцию, для того чтобы найти покупателей или партнёров для создания совместной деятельности.

Задание 9: Сделайте краткий доклад о национальных и международных выставках и их растущей роли в мире по следующему плану/ Make a short report about national and international exhibitions and their growing role in the world. Follow the plan.

- 1) Growing demand on national and international exhibitions
- 2) The participants and visitors of these exhibitions__

ПРАКТИЧЕСКОЕ ЗАНЯТИЕ 22. СОГЛАСОВАНИЕ ВРЕМЁН.

Обучение правильному использованию согласования времён в английских предложениях.
Выполнение лексико-грамматических упражнений.

Продолжительность: 180 мин.

Цель: Обучить правильному использованию согласования времён в предложениях.

Задания к практическому занятию:

Задание 1: Выберите правильную форму глагола/Choose the correct form.

1) Джон сказал мне, что живёт в Лондоне.

A) lived

B) lives

C) has been living

2) Брат написал мне, что он окончил школу.

A) has left

B) had left

C) left

3) Она написала, что скоро приедет в Кемерово.

A) will come

B) would come

C) comes

4) Она сказала, что скоро вернётся в Кемерово.

A) will be back

B) would be back

C) comes

5) Они говорят, что пойдут в театр завтра.

A) would go

B) go

C) will go

6) Саша сказал, что читал эту книгу.

A) had read

B) has read

C) read

7) Она сказала, что будет занята сегодня.

A) is busy

B) will be busy

C) would be busy

8) Преподаватель спросил нас, сколько времени у нас обычно уходит на то, чтобы добраться до дома.

A) takes

B) took

C) will take

Задание 2: Найдите предложения, в которых глагол в скобках может стоять в настоящем времени.

| Задание | Образец для оформления |
|---|------------------------|
| 1. Our neighbour said his name (be) Fred. (Наш сосед сказал, что его зовут Фред.) 2. He said he (be) tired. (Он сказал, что устал.) 3. I thought you (call) the doctor. (Я думал, что ты вызвал врача.) 4. We met the woman who (live) next door. (Мы встретили женщину, живущую рядом.) 5. Jane said she (can't afford) to buy a new car. (Джейн сказала, что не может позволить себе покупку новой машины.) 6. She asked me how many books I (read) last month. (Она спросила меня, сколько книг я прочитал в прошлом месяце.) 7. Bob said he usually (go to bed) before midnight. (Боб сказал, что обычно ложится спать до полуночи.) 8. I wondered why Sam (leave) without saying a word. (Мне было интересно, почему Сэм ушел, не сказав ни слова.) | 1. +(is) |

| | |
|---|--|
| 9. Cavendish discovered that water (consist of) hydrogen and oxygen. (Кавендиш открыл, что вода состоит из водорода и кислорода.) | |
| 10. Alice and Henry said that they (be) from Florida. (Алиса и Генри сказали, что они родом из Флориды.) | |

Задание 3: Choose the correct form/Выберите верный вариант глагола и переведите предложения.

| Задание | Образец для оформления |
|--|---|
| 1. I knew that my sister ... (have/has/had) a problem. | 1. had (Я знал, что у моей сестры была проблема.) |
| 2. I know that my sister ... (have/has/had) a problem. | |
| 3. I knew that my sister ... (will have/would have/had) a problem soon. | |
| 4. He said he ... (lived/has lived/had lived) in Moscow since 2005. | |
| 5. She asks me if the flight ... (has been cancelled/had been cancelled/been cancelled). | |
| 6. She asked me if the flight ... (has been cancelled/had been cancelled/was cancelled). | |
| 7. Nobody knew what ... (will happen/would happen/happens) next. | |
| 8. Mike said that he ... (hasn't met/didn't meet/hadn't met) Helen since they parted. | |
| 9. Kelly said that she ... (didn't want/doesn't want/hadn't wanted) to wear her hat. | |
| 10. We didn't expect that he ... (showed/will show/would show) us the film. | |

Задание 4: Продолжите предложения, ответы подготовьте с устными пояснениями

| Задание | Образец для оформления, устного пояснения |
|--|---|
| 1. He realizes he will be alone. He realized... | 1. <u>He realized he would be alone.</u> Глагол-сказуемое главного предложения стоит в прошедшем времени – realized (Past Simple). Поэтому должно соблюдаться согласование времен, и в придаточном предложении глагол должен стоять в одном из прошедших времен – в данном случае Future Simple меняется на Future in the Past (will be → would be). |
| 2. We hope she will be waiting for us at six o'clock. We hoped... | |
| 3. He proves he is the best. He proved... | |
| 4. She imagines she can do that. She imagined... | |
| 5. We understand we need more money. We understood... | |

Задание 5. Переведите предложения с русского на английский/ Translate the sentences paying attention to Sequence of Tenses.

| Задание | Образец для оформления |
|--|---|
| 1. Я думал, что они ждут меня дома. 2. Джон был уверен, что я уехал из города. 3. Я надеялся, что он придет. 4. Мы не знали, что он говорит по-английски. | 1. I thought that they were waiting for me at home. |

Задание 6: Выберите правильную форму глагола/ Choose the correct form.

1) He said he (will, would) be there. 2) He thinks he (can, could) do it. 3) He asked me where I (live, lived). 4) The newspaper says it (will, would) rain the next day. 5) I told her that I (can't, couldn't) go. 6) He said he (may, might) be late. 7) She said she (did not, does not) feel well. 8) I told her that I (could not, cannot) walk so fast. 9) She said he (will, would) be there at noon. 10) I don't know what her name (is, was).

Задание 7: Переводите предложения, обращая внимание на последовательность времен/Translate the sentences paying attention to Sequence of Tenses.

1) I knew they (to wait) for me at the metro station and I decided to hurry. 2) I didn't know that you already (to wind) up the clock. 3) I was afraid that the little girl (not to be) able to unlock the front door and (to go) upstairs to help her. 4) He says that he (to know) the laws of the country. 5) Sarie understood why Lanny (not to come) the previous evening. 6) She asked me whether I (to remember) the legend about a faithful lion. 7) He understood that the soldiers (to arrest) him. 8) He could not understand why people (not to want) to take water from that well. 9) I suppose they (to send) a dog after the burglar (взломщик) immediately. 10) He said he (to leave) tomorrow morning. 11) She says she already (to find) the book. 12) He stopped and listened: the clock (to strike) five.

Задание 8: Переводите предложения, обращая внимание на последовательность времен/Translate the sentences paying attention to Sequence of Tenses.

A.1) I did not know that you already (to read) this book 2) He did it better than we (to expect). 3) He said that the bus (to be) here soon. 4) He told us that he (to do) this work himself 5) They decided that they (to bring) us all the books we need. 6) He said that he (can) not do it without my help. 7) I decided that next year I (to go) to the Black Sea coast. 8) It was decided that we (to begin) our work at eight o'clock. 9) I told them that I (to leave) for Minsk next day. 10) The boy did not know that he already (to receive) a good mark. 11) The students wanted to know when they (to pass) their examinations. 12) We saw that our teacher just (to go out) and he (to come back) soon. 13) He said we (may) keep the books as long as we (to like). 14) We knew that he not (to be able) to make his work in time and (to decide) to help him. 15) We understood at once that this control work (to be) a difficult one.

B.1) My friend asked me who (is playing, was playing) the piano in the sitting room. 2) He said he (will come, would come) to the station to see me off. 3) I was sure he (posted, had posted) the letter. 4) I think the weather (will be, would be) fine next week. I hope it (will not change, would not change) for the worse. 5) I knew that he (is, was) a very clever man. 6) I want to know what he (has bought, had bought) for her birthday. 7) I asked my sister to tell me what she (has seen, had seen) at the museum. 8) He said he (is staying, was staying) at the Ritz Hotel. 9) They realized that they (lost, had lost) their way in the dark. 10) He asked me where I (study, studied). 11) I thought that I (shall finish, should finish) my work at that time. 12) He says he (works, worked) at school two years ago. 13) Victor said he (is, was) very busy.

Задание 9: Контрольные вопросы/ Control questions.

- 1) В чем заключается правило согласования времен?
- 2) Какие временные формы употребляются при согласовании времен для выражения одновременного, предшествующего и будущего действия?
- 3) В каких случаях не применяется форма Past Perfect?

**ПРАКТИЧЕСКОЕ ЗАНЯТИЕ 23.
СОГЛАСОВАНИЕ ВРЕМЁН. ПРАВИЛА ПЕРЕВОДА
ПРЯМОЙ РЕЧИ В КОСВЕННУЮ РЕЧЬ.**

Перевод прямой речи в косвенную речь: общих вопросов, специальных вопросов, модальных глаголов, повелительного наклонения и просьб. Выполнение грамматических упражнений.

Продолжительность: 90 мин.

Цель: Обучить правильному использованию согласования времён в предложениях. Перевод прямой речи в косвенную речь общих вопросов, специальных вопросов, модальных глаголов, повелительного наклонения и просьб.

Задания к практическому занятию:

Задание 1: Таблица, приведенная ниже, отражает то, как меняются времена при переходе из прямой речи в косвенную. Используя примеры из таблицы, подготовьте сообщение по следующим вопросам:

- Как строится косвенная речь при передаче сообщения, вопроса, просьбы или приказа?
- Как косвенная речь влияет на порядок слов в предложении?

| DIRECT SPEECH | REPORTED SPEECH |
|--|---|
| PRESENT | |
| Present Simple He said, "I don't know what to do". | Past Simple He said he didn't know what to do. |
| Present Continuous She said, "I'm writing a letter". | Past Continuous She said she was writing a letter. |
| Present Perfect They said, "We've never been to Spain". | Past Perfect They said they had never been to Spain. |
| Present Perfect Continuous He said, "It has been raining for 2 hours". | Past Perfect Continuous He said it had been raining for 2 hours. |
| PAST | |
| Past Simple He said, "I talked to her yesterday". | Past Perfect He said he had talked to her the day before. |
| Past Continuous She said, "It was raining and the people were hurrying home". | Past Perfect Continuous She said it had been raining and the people had been hurrying home. |
| Past Perfect She said, "I had already cleaned the flat when they arrived". | NO CHANGE IN TENSE She said she had already cleaned the flat when they arrived. |
| Past Perfect Continuous He said, "By 6 o'clock they had already been waiting for 2 hours". | NO CHANGE IN TENSE He said by 6 o'clock they had already been waiting for 2 hours. |
| FUTURE | |
| Future tenses | Future in the Past |
| Future Simple He said, "I'll come back one day". | He said he would come back one day. |
| Future Continuous He said, "I'll be doing a presentation at this | He said he would be doing a presentation at this time the next day. |

| | |
|--|--|
| time tomorrow”. | |
| Future Perfect She said, “I’ll have finished my report by the evening”. | She said she would have finished her report by the evening. |
| Future Perfect Continuous She said, “By April 6th I’ll have been working there for half a year”. | She said by April 6th she would have been working there for half a year. |

Задание 2: Преобразуйте прямую речь в косвенную.

| Задание | Образец для оформления |
|---|---|
| <ol style="list-style-type: none"> 1. She says, “I study English.” 2. He says to me, “I have possibility to visit my granny.” 3. We say to him, “You are stupid.” 4. They said, “We have decided.” 5. He said, “I will read the novel.” 6. They said, “We were in Paris.” 7. They asked him, “Do you work in the office?” 8. She asked them, “Have you been to America?” 9. They asked her, “Where are you going?” 10. We said him, “Give us the magazine, please.” 11. The teacher told, “Translate the story.” 12. She says, “Don’t be afraid.” | <ol style="list-style-type: none"> 1. She says that she studies English. |

Задание 3: Продолжите предложения в косвенной речи, соблюдая правила согласования времен.

| Задание | Образец для оформления |
|---|--|
| <ol style="list-style-type: none"> 1. She said, “I speak French.” – She said that she ... 2. She said, “I am speaking French.” 3. She said, “I have spoken French.” 4. She said, “I spoke French.” 5. She said, “I am going to speak French.” 6. She said, “I will speak French.” 7. She said, “I can speak French.” 8. She said, “I may speak French.” 9. She said, “I have to speak French.” 10. She said, “I must speak French.” 11. She said, “I should speak French.” 12. She said, “I ought to speak French.” | <ol style="list-style-type: none"> 1. She said that she spoke French. |

Задание 4: Превратите следующие предложения в косвенную речь, сделав все необходимые изменения.

Например: Jack said: “I am working hard.” (Джэк сказал: «Я много работаю.») – Jack said (that) he was working hard. (Джэк сказал, что много работает.)

I told her: “You can join us.” (Я сказал ей: «Ты можешь присоединиться к нам.») – I told her (that) she could join us.” (Я сказал ей, что она может присоединиться к нам.)

| Задание | Образец для оформления |
|--|---|
| <ol style="list-style-type: none"> 1. Fred said: “I have invented a new computer program”. (Фрэд сказал: «Я изобрел новую компьютерную программу.») 2. Mary said: “I will help my sister.” (Мэри сказала: «Я помогу своей сестре.») 3. They told me: “We were really happy.” (Они сказали мне: «Мы были очень счастливы.») 4. She said: “I live in a big apartment.” (Она сказала: «Я живу в большой квартире.») 5. He told her: “I am going to the fish market.” (Он сказал ей: «Я собираюсь на рыбный рынок.») 6. Betty said: “I found my passport.” (Бетти сказала: «Я нашла свой паспорт.») 7. Mr. Ford said: “I don’t like pork.” (М-р Форд сказал: «Я не люблю свинину.») 8. Little Tim told his mother: “I am sleepy.” (Маленький Тим сказал маме: «Я хочу спать.») | <ol style="list-style-type: none"> 1. Fred said (that) he had invented a new computer program. |

Задание 5: Теперь, наоборот, измените косвенную речь на прямую.

Например: Peter asked me if I was free. (Питер спросил меня, свободен ли я.) – Peter asked: “Are you free?”

She wanted to know where I had bought the dictionary. (Она хотела узнать, где я купила словарь.) – She asked: “Where did you buy the dictionary?”

| Задание | Образец для оформления |
|--|--|
| <ol style="list-style-type: none"> 1. I asked him why he was tired. (Я спросил его, почему он устал.) 2. We wanted to know if Kate had broken the car. (Мы хотели узнать, сломала ли Кейт машину.) 3. He asked if they could meet on Tuesday. (Он спросил, могут ли они встретиться во вторник.) 4. I wondered how often she used the washing-machine. (Я поинтересовалась, как часто она пользуется стиральной машиной.) 5. Mother wanted to know if we would invite Kevin to the party. (Мама хотела знать, пригласим ли мы Кевина на вечеринку.) | <ol style="list-style-type: none"> 1. I asked: “Why are you tired?” |

Задание 6: Передайте в косвенной речи цитаты известных людей.

1. “I can’t resist anything but temptation.” (Oscar Wilde)
Oscar Wilde said that...

2. “It has long been an axiom of mine that the little things are the most important”(Conan Doyle)

Conan Doyle said that ...

3. "The world is so full of a number of things, I'm sure we should all be happy as kings". (Robert Stevenson)

Robert Stevenson wrote that...

4. "Always do what you are afraid to do" (Ralf Emerson, American poet and essayist)

Ralf Emerson wanted us....

5. "Never take anything for granted". (Benjamin Disraeli)

Benjamin Disraeli asked us....

6. "If a man doesn't make new friends as he advances through life – he will soon find himself alone. A man should keep his friendship in constant repair." (Samuel Johnson, English writer)

Samuel Johnson warned us that...

7. "If you want to be successful, you must look successful." (Thomas Moore, Irish poet)

Thomas Moore said if...

8. "Don't anticipate trouble or worry about what may never happen. Keep in the sunlight." (Benjamin Franklin)

Benjamin Franklin advised us...

9. "Every man has three characters: that which he exhibits, that which he has and that which he thinks he has." (Karr)

Karr thought that...

Задание 7 Устный тренинг по теме «Косвенная речь в английском языке/Reported Speech (advanced). Переведите предложения, запомните свой ответ и проверьте себя.

| Задание | Проверить себя |
|---|--|
| 1. Он говорит, что Мэри сделает это. | 1. He says Mary will do it. |
| 2. Он только что сказал мне, что урок начался. | 2. He just told me that class has started. |
| 3. Он сказал мне, что урок начался. | 3. He told me that the lesson had begun. |
| 4. Мой брат только что сказал, что он придет в 5 часов. | 4. My brother just said that he will come at 5 o'clock. |
| 5. Он сказал, что он встает в 8 часов. | 5. He said that he gets up at 8 o'clock. |
| 6. Он сказал, что делегация уезжает в конце недели. | 6. He said that the delegation was leaving at the end of the week. |
| 7. Он сказал, что напишет письмо в тот же день. | 7. He said that he would write a letter on the same day. |
| 8. Он спросил меня, где я живу. | 8. He asked me where I lived. |
| 9. Он спросил меня, когда они вышлют документы. | 9. He asked me when they would send the documents. |
| 10. Он спросил меня, получил ли я его телеграмму. | 10. He asked me if I had received his telegram. |
| 11. Он попросил ее дать ему стакан воды. | 11. He asked her to give him a glass of water. |
| 12. Она сказала ему прийти в 5 часов. | 12. She told him to come at 5 o'clock. |

ПРАКТИЧЕСКОЕ ЗАНЯТИЕ 24. ОТРАСЛЕВЫЕ ВЫСТАВКИ.

Обучение навыкам письменной и устной речи на основе составления сообщения и диалогов по теме. Использование прямой и косвенной речи в английском языке (продолжение).

Активизация лексических единиц по теме.

Продолжительность: 180 мин.

Цель: Обучить навыкам письменной и устной речи на основе составления сообщения и диалогов по теме: «Отраслевые выставки». Активизировать использование в речи лексики по теме: «Отраслевые выставки».

Задания к практическому занятию:

Задание 1: Запомните следующие слова и словосочетания. Используйте их в качестве словаря для перевода последующих тематических текстов/ Remember the following words and word combinations.

1. advanced manufacturing technology передовая технология производства
2. branch of industry отрасль промышленности
3. convey a messages передавать идею
4. dates финики
5. idea общее представление
6. (industrial) tradeshow отраслевая выставка
7. keynote лейтмотив
8. level of technology уровень развития техники
10. market trends тенденции рынка
11. participant участник
12. range диапазон
13. sales promotion продвижение товара
14. sophisticated machinery сложное оборудование
15. stall ларёк, киоск, палатка
16. to gain recognition получить признание
17. to hold under a motto проводить под девизом
18. to promote способствовать
19. to showcase возможность показать что-л. в выгодном свете, с наилучшей стороны
20. particular специфический
21. sectoral отраслевой
22. alike точно так же
23. indeed несомненно
24. up to date новейший, современный

Задание 2: Переведите на русский язык/Translate into Russian.

1) Industrial tradeshow; 2) companies in a specific industry can showcase and demonstrate their latest products and services; 3) to examine recent market trends; 4) an ideal way of advertising and sales promotion; 5) from highly specialized sophisticated machinery to ripe olives and dates; 6) products of a particular industry or group of industries; 7) range of the sectoral exhibitions; 8) the Frankfurt Book Fair; 9) indeed all participants along with; 10) a good idea of level of technology and advanced manufacturing technologies of the enterprises and firms; 11) stands and stalls; 12) up to date equipment and exhibits; 13) the messages to be conveyed by the exhibitions and the mottos under which they are held vary, but the keynote remains.

Задание 3: Прочитайте текст и ответьте на следующие вопросы/Read the text to answer the following questions.

- 1) What role do international industrial trade shows and exhibitions play today?
- 2) Why do fairs and exhibitions attract both businessmen and the general public?
- 3) How many groups do the international industrial tradeshow fall into?
- 4) For what is each of them intended?
- 5) Why are industrial trade shows and exhibitions classified as either «public» or «trade only». Can you give any example?
- 6) What are the most popular messages and mottos under which trade fairs and exhibitions are held?
- 7) Why do people try to visit pavilions, stands and stalls at the trade fairs and exhibitions?

INDUSTRIAL TRADESHOWS

In the commercial world today *industrial tradeshow* (*trade fair, trade exhibition, or expo*) play an important role. Tradeshow are exhibitions organized so that companies in a specific industry can showcase and demonstrate their latest products and services, meet with industry partners and customers, study activities of competitors, and examine recent market trends and opportunities. They offer exporters an excellent opportunity to show what they have for sale, to make contacts and to learn about a market quickly and easily. They are also an ideal way of advertising and sales promotion.

International industrial tradeshow today fall mainly into two groups: specialized ones concentrating on products of a particular industry or group of industries, and sectorial ones, ainly

represented by enterprises of only one branch of industry. Range of the sectorial exhibitions cover many different fields from highly specialized sophisticated machinery to ripe olives and dates.

In contrast to consumer fairs, only some trade fairs are open to the public, while others can only be attended by company representatives (members of the trade, e.g. professionals) and members of the press, therefore tradeshows are classified as either «public» or «trade only». A few fairs are hybrids of the two; one example is the Frankfurt Book Fair, which is trade only for its first three days and open to the general public on its final two days.

Lately business information exhibitions have gained recognition too. An industrial tradeshow is always an event which attracts serious businessmen, and the general public alike. Indeed all participants along with showing the best they can offer try to give visitors a good idea of level of technology and advanced manufacturing technologies of the enterprises and firms taking part in the trade exhibitions.

At many industrial tradeshows there are stands and stalls selling all kinds of specialized goods and up to date equipment and exhibits to numerous visitors. The messages to be conveyed by the exhibitions and the mottos under which they are held vary, but the keynote remains: it is progress through trade and economic cooperation.

Задание 4: Ситуация! Представьте себе, что вы только что прочитали газетную статью, посвященную промышленным выставкам, которые ежегодно проводятся в России. Ваша задача: прочитать его и воспроизвести его содержание, используя каждую фразу в поле, приведенном ниже текста/ Situation! Emagine yourself you have just read a newspaper article devoted to the industrial tradeshows which are annually held in Russia. Your task is: to read it and to reproduce its content using each phrase in the box given below the text.

TRADE FAIRS IN RUSSIA

In the Russian Impare trade fairs were arranged according to the regulations of Manufactory council established in October, 1828. Factory-made goods and manufactured articles were permitted for sale

with required marks (с обязательными клеймами) which were certified the Russian products. 1829 the first Russian trade fair was opened in St. Petersburg.

The Russian Federation is a regular participant of almost all international industrial tradeshows. At the same time the Russian Federation promotes and organizes its international industrial tradeshows.

Among the most famous Russian exhibition companies, which hold trade shows, one can note *the Expocentre, the all-Russian exhibition centre, Crocus Expo, Yekaterinburg Expo, Novosibirsk Expocentre, Kazan Expo*, etc. Also two international trade exhibitions – *Kuzbass Expo-Sibiria* and *Coal Mining* – are held in the Kemerovo region annually. They are situated in Kemerovo and Novokuznetsk.

It is known (that) ... – известно, что ...

It is said (that) ... – говорят, что ...

It is reported (that) ... – сообщается, что ... / как сообщают ...

It is pointed out (that) ... – (как) отмечают ...

They say (that) – говорят, что ...

It is believed that ... – считается, что ... / как считают ...

It is stressed that ... – подчёркивается, что ...

It should be noted that ... – следует отметить, что ...

Задание 5: Ответьте на вопросы к тексту «Ярмарки в России» /Answer the questions to text «Trade Fairs in Russia».

- 1) When was Manufactory council established in the Russian Impare?
- 2) When and where was the first Russian trade fair opened?
- 3) What kind of goods and articles were allowed to sell at the Russian trade fair?
- 4) What Russian exhibition companies are the most famous?
- 5) What international trade exhibitions are held in the Kemerovo region annually?

Задание 6: Прочтите эти диалоги и разыграйте их с помощью подстановок/ Read these flashes of conversation and act them out using substitutions.

1. *Foreign visitor*: What does your company exhibit here?

Russian Exhibitor: We display lots of goods. At this particular stand you can see our *chemical equipment* (1).

F. V.: Can we see it in operation?

R. E.: Certainly, I suggest you see our *booklets* (2) first, to get a better idea of the equipment.

F. V.: Thank you, you've been very helpful.

Substitutions: 1) electrical machinery (электрооборудование); equipment for laying pipelines; metallurgic equipment; machine-tools (станки); mining equipment; spare parts for cars (автозапчасти); electronic installation; computer accessories 2) catalogues; advertising literature; advertising film; slides; graphic display; audio-visuals; leaflets (брошюры, проспекты)

2. *F. V.*: We're glad we've seen your display. You really offer modern technology and reliable equipment.

R. E.: That's nice to hear. Would you be interested in cooperation with us?

F. V.: Yes, and we want to know on what terms you do business.

R. E.: Well, we cooperate *on different terms*.

Substitutions: on terms of technical assistance (на условиях технического содействия); on turn-key terms (на условиях «под ключ»), on a compensatory basis

3. *Attendant*: We've been advertising your equipment widely.

R. E.: While we are on it, have you *bought TV and radio time*?

A.: We have. We're doing our best and have been successful in promoting your exports.

R. E.: You sound very optimistic. Let's hope for the best.

Substitutions: to distribute our advertising literature; to place advertisements in your business publications; to arrange for showing films; to place hoardings (рекламный щит)

4. *F. V.*: Your exhibition has attracted lots of businessmen and the general public.

R. E.: I presume (предполагать) that's because we show *modern equipment*.

F. V.: And your stands are perfectly decorated.

R. E.: Nice of you to say that.

Substitutions: progress in science; engineering and culture; social progress of our society; improvement in the Russian people's well-being

Задание 7: Прочтите разговор и разыграйте его/ Read the conversation and act it out.

Foreign Representative: Thank you, Mr. Ivanov, for showing us round your pavilion. Your display has attracted a lot of businessmen. I hope the exhibition will promote our cooperation too.

Russian Exhibitor: That's nice to hear. As I've told you, Mr. ..., we are showing here our most up-to-date equipment. It incorporates (включать) the latest scientific and technological achievements.

F. R.: It was a good idea to show a film about the power plants which Russia has constructed abroad. It's really very impressive.

R. E.: Well, our power plants are popular throughout the world.

F. R.: We may also be interested in constructing a power station in this country, Mr. Ivanov.

R. E.: Glad to hear that. May I suggest that we meet at the commercial office for a tentative talk (предварительная беседа) on future cooperation?

F. R.: All right.

Задание 8: Выберите один из тезисов, приведенных ниже, чтобы написать эссе/ Chose one of theses given below to write an essay.

1) The role of industrial tradeshows in the modern society

2) The past and the present of the Russian trade shows__

ПРАКТИЧЕСКОЕ ЗАНЯТИЕ 25.

ПРЕЗЕНТАЦИЯ ТОВАРА КОМПАНИИ НА ВЫСТАВКЕ.

Составление диалогов по теме. Использование прямой и косвенной речи в английском языке. Ролевая игра «Презентация товара компании на выставке». Активизация лексических единиц по теме. Выполнение лексико-грамматических упражнений.

Продолжительность: 180 мин.

Цель: Обучить навыкам устной диалогической и монологической речи на основе составления диалогов и их трансформации в косвенную речь по теме: «Презентация товара компании на выставке». Активизировать лексику в речи по теме: «Презентация товара компании на выставке».

Задания к практическому занятию:

Задание 1: Запомните следующие слова и словосочетания. Используйте их в качестве словаря для перевода последующих тематических текстов/ Remember the following words and word combinations.

- | | |
|---------------------------|-----------------------------------|
| 1. leaflet | брошюра; рекламный проспект |
| 2. maintenance | техническое обслуживание |
| 3. payment | оплата |
| 4. performance | технические характеристики |
| 5. processing equipment | технологическое оборудование |
| 6. stand attendant | лицо, обслуживающий стенд |
| 7. start-up | пуск (оборудования) |
| 8. to correspond to | соответствовать |
| 9. to impress | производить впечатление, поражать |
| 10. to interest | заинтересовать |
| 11. to outperform | превосходить (по эффективности) |
| 12. to put into operation | вводить в эксплуатацию |
| 13. You sound optimistic | звучит обнадеживающее |

Задание 2: Прочитайте беседу «На выставке»/ Read the conversation «At the exhibition stand».

AT THE EXHIBITION STAND

Boris Ivanov is at the exhibition which is being held in Shanghai. The stand of one of many English companies has attracted his attention. At the moment he is talking to Mr Johnson, the sales manager for the company producing electrical equipment.

B.I.: Good afternoon, Mr Johnson. I'm the Commercial director of a Russian company. Here is my card.

Mr J.: Good afternoon, Mr Ivanov. Have you seen our advertising material?

B.I.: Yes. Your stand attendant gave me it.

Mr J.: Does our new processing equipment interest you?

B.I.: Yes. We are looking for new machinery for our plant in Kemerovo. We need to decide what equipment to buy.

Mr J.: Our new equipment is not a bad choice. It corresponds to the highest technical level and the highest standards existing in the world today.

B.I.: I was impressed by the performance of your equipment. I've seen a lot of similar systems at the exhibition ... but yours outperforms them.

Mr J.: You sound optimistic. We've worked hard and we've achieved some success, Mr Ivanov.

B.I.: How long is the guarantee for your equipment, Mr Johnson?

Mr J.: One year and a half from the start-up of the equipment.

B.I.: How long will it take you to deliver 4 sets of this equipment in Kemerovo?

Mr J.: One month from the date of payment.

B.I.: And to put into operation?

Mr J.: From 2 till 5 days. It depends on the model.

B.I.: Fine. We are also very interested in maintenance.

Mr J.: We provide technical support for all our equipment.

B.I.: Thank you, Mr Johnson.

Mr J.: You are welcome!

Задание 3: Ответьте на следующие вопросы по диалогу «На выставке»/ Answer the following questions to the conversation «At the exhibition stand».

- 1) What is this dialog about? 2) Who are these persons? 3) Where are they from? 4) What do they do for living? 5) What does Mr Ivanov seek at the exhibition? 6) Where is this exhibition held?
- 7) What kind of articles did Johnson's company displayed for sale? 8) What kind of way did Boris Ivanov react to new equipment? 9) What did they discuss at the stand?

Задание 4: Act out the conversation «At the exhibition stand».

Задание 5: Прочтите эти диалоги и разыграйте их / Read these flashes of conversation and act them out.

1. F. V.: Can we see your equipment in operation?

R. E.: Yes. Come this way, please. (The stand-attendant goes to the model and pushes the button).

F. V.: Oh, isn't it wonderful!

R. E.: What we show here is our up-to-date equipment.

F. V.: May we have your leaflets and catalogues?

R. E.: Here you are. They might be very helpful.

2. F. V.: I've seen your leaflets and catalogues. Incidentally, do you show films on your equipment?

R. E.: We do, we have regular showings over there.

F. V.: May I suggest that we go and see a film?

R. E.: That would be a good idea.

3. F. V.: Is all the equipment you show here for sale?

R. E.: Yes, you may have our advertising literature with full technical specifications.

F. Y.: Thank you. And where can I talk about the commercial terms?

R. E.: At our commercial office. Shall I take you there?

F. V.: Oh, don't bother, I know where it is.

Задание 6: Давайте поиграем в переводчика. Представьте себе, что вы находитесь на выставке и работаете переводчиком. Ваша задача-интерпретировать разговор двух участников выставки. Вы должны перевести русскую речь на английский язык, а английскую - на русский/ Let's play an interpreter. Imagine yourself you are at the exhibition working as an interpreter. Your task is to interpret conversation between two participants of the exhibition. You should interpret Russian speech into English one and English speech into Russian one.

1. Foreign Visitor: Thank you for showing us round your pavilion, Mr. Petrov. Your display has greatly impressed us.

(You interpret the Foreign Visitor's speech into Russian)

2. Russian Exhibitor: Приятно слышать это. Я действительно надеюсь, что выставка будет способствовать нашему сотрудничеству.

(You interpret the Russian Exhibitor's speech into English)

1: So do I. We are interested in the latest model of your pumps.

(You interpret the Foreign Visitor's speech into Russian)

2: О, она пользуется большим спросом, так как она очень надежна, и ее производительность высока.

(You interpret the Russian Exhibitor's speech into English)

1: I see. May we have your advertising literature with technical specifications?

(You interpret the Foreign Visitor's speech into Russian)

2: Пожалуйста. Кстати, многие фирмы уже закупили эту модель и удовлетворены ею. Оборудование полностью отвечает их требованиям.

(You interpret the Russian Exhibitor's speech into English)

1: By the way, Mr. Petrov, have you received our enquiry?

(You interpret the Foreign Visitor's speech into Russian)

2: Да. Мы получили его два дня тому назад.

(You interpret the Russian Exhibitor's speech into English)

- 1: When will you be ready to discuss it with us?
(You interpret the Foreign Visitor's speech into Russian)
- 2: В пятницу, если вы не возражаете.
(You interpret the Russian Exhibitor's speech into English)
1. Agreed! Till Friday.
(You interpret the Foreign Visitor's speech into Russian)
2. До свидания. До пятницы.
(You interpret the Russian Exhibitor's speech into English)

Задание 7: Составьте свой разговор на тему " Презентация продукта компании на выставке»./ Следуйте плану:Make up your conversation on the topic «Presenting company's product at the exhibition». Follow the plan:

- 1) Greeting
- 2) Main subject of conversation about good
- 3) Leave-taking

ПРАКТИЧЕСКОЕ ЗАНЯТИЕ 26. МЕТРИЧЕСКАЯ СИСТЕМА МЕР.

Обучение навыкам устной монологической речи.

Продолжительность: 180 мин.

Цель: Обучить навыкам устной речи на основе темы: «Метрическая система мер».

Активизировать лексику в речи по теме: «Метрическая система мер».

Задания к практическому занятию:

Задание 1: Запомните следующие слова и словосочетания. Используйте их в качестве словаря для перевода последующих тематических текстов/ Remember the following words and word combinations.

| | |
|------------------|---|
| 1. advantage | преимущества |
| 2. area | площадь |
| 3. candle | 1. свеча 2. кандела (единица измерения света) |
| 4. cause | служить причиной |
| 5. arithmetic | арифметика |
| 6. charge | поручать |
| 7. complicated | сложный |
| 8. conversion | пересчет, перевод |
| 9. convert | переводить (единицы) |
| 10. decimal | десятичный |
| 11. define | определять |
| 12. density | плотность |
| 13. derive | выводить; происходить |
| 14. distance | расстояние |
| 15. equal | равный |
| 16. exception | исключение |
| 17. inch | дюйм |
| 18. interrelated | взаимосвязанный |
| 19. length | длина |
| 20. line | линия |
| 21. measure | мера |
| 22. measurement | измерение |
| 23. mole | моль (единица измерения) |
| 24. multiply | умножать |
| 25. nearly | почти |
| 26. pound | фунт |
| 27. prefix | (лингв.) приставка, префикс |
| 28. quantity | количество |

Задание: 2 Прочитайте текст и ответьте на следующие вопросы/Read the text to answer the following questions.

- 1) What quantities does physics measure? Are most of them interrelated?
- 2) How many systems of measurement are widely used nowadays?
- 3) All the nations of the world use the metric system, don't they?
- 4) What was used before the metric system? Did the earlier system have any drawbacks?
- 5) When was the idea of decimal system realized?
- 6) What is the main unit of the metric system? How was it measured?
- 7) Were the units of area and volume defined as well?
- 8) Do shorter units have Greek or Latin prefixes?
- 9) What is a unit of mass?
- 10) Is there a difference between the metric system and the SI system?
- 11) What synonyms to the phrase *metric system* can you find in the text?

THE METRIC SYSTEM

Physics measures such physical quantities as time, length, mass, density, velocity, area, volume, temperature and energy.

Different units of length and mass exist. Nearly all of them are interrelated. Nowadays, three main systems of measurement are widely used: the British system of unity, the metric system of units and the International system of units (SI).

With a few exceptions, all the nations of the world use the metric system. It is so easy that anyone who knows arithmetic can learn it quickly. Before the introduction of the metric system (metrekilogram-second), the British foot – pound – second system was widely used. But the latter system (which is still in use in Great Britain and the USA) was very complicated and caused serious difficulties in the international trade. For example, in the British system 1 mile is equal to 1760 yards, 1 yard – to feet and 1 foot- to 12 inches. This means that it's very difficult to convert units. But in the metric system each unit is a multiple of the following lower unit by ten. Therefore, the conversion to a higher quantity is done by moving the decimal point to the right to the required number of places, and vice versa.

The idea of decimal system was realized only at the end of the 18th century. In 1791, the French Academy of Science decided that the standard of length should be one ten-millionth part of the distance from the Equator to the North Pole. The two French scientists charged with the task took this distance on a line running through Paris and divided it into 10 000 000 equal parts. They called one of the parts a meter (*measure*), which became the main unit. Meter was also used to measure area and volume. Thus a square meter and a cubic meter appeared.

The main advantage of the system is that for shorter measurements the metre is divided by ten, so a decimal system was used. Shorter units had Latin prefixes and longer ones – Greek prefixes. So, *millimeter* is Latin for *a thousandth part of a meter* and *kilometer* is Greek for *a thousand meters*.

As for the unit of mass, it was defined as the mass of a cubic centimeter of water at the temperature of 4 c (the temperature of its maximum density). As we know, the name of this unit is grammar.

The SI units is derived from the metric system and was internationally accepted in 1960. Besides meter (m), kilogram (kg) and second (s), its basic units are Kelwin (K), ampere (a), mole (mol), and candle (cd). This system was introduced in our country in the 1960s and every day we measure things by the units from this system.

Задание 3: Изучите лексику. Вставьте пропущенные слова/ Study the Vocabulary. Insert the missing words.

- 1) Can you __ cubic meter into cubic centimeters?
- 2) The __ between Moscow and Kemerovo is 5049 __.
- 3) *Biology* is a __ word, and *science* is a __one.
- 4) The teacher __ one of his pupils with a difficult task.
- 5) Newton was a great __ who formulated laws of gravitation.
- 6) What is the __ of this swimming pool? – The swimming pool is twenty-five __ long and two __ deep, and ten __ wide. So, I __twenty-five by two and by ten and I get five hundred __ .
- 7) The __of ice is more than the __of water as a liquid.

Задание 4: Продолжить следующие утверждения/ Continue the following statements.

- 1) The British system of units, the metric system of units and the International system of units (SI) are ...
- 2) Everyone who knows arithmetic can ...
- 3) Before the introduction of the metric system ...
- 4) The conversion to a higher quantity in a metric system is done ...
- 5) In 1791 the French Academy of Science decided ...
- 6) The two French scientists took this distance ...
- 7) Meter was also used to measure ...
- 8) The main advantage of the metric system is ...
- 9) The unit of mass was defined ...
- 10) The SI system is derived ...

Задание 5: Составьте план текста и перескажите текст, глядя в свой план/Make a plan of the text and retell the text looking in your plan.

Примерный образец плана для пересказа:

1. The disadvantages of the British system of units.
2. The introduction of the metric system.
3. Prefixes in the metric system.

1. The difference between the metric system of units and the international system of units (SI).
2. The origin of the British system of units.
3. The introduction of the SI units.
4. Conversion in the British system of units.

**ПРАКТИЧЕСКОЕ ЗАНЯТИЕ 27.
КОМПЬЮТЕР.**

Обучение навыкам устной и письменной речи по теме. Активизация в речи конструкции типа «it would (not) be + adjective + to V». Активизация в речи лексики по теме. Выполнение лексико-грамматических упражнений.

Продолжительность: 90 мин.

Цель: Обучить навыкам устной и письменной речи по теме:

«Компьютер». Активизировать в речи конструкции типа «it would (not) be + adjective + to V».

Активизировать в речи лексику по теме: «Компьютер».

Задания к практическому занятию:

Задание 1: Запомните следующие слова и словосочетания. Используйте их в качестве словаря для перевода последующих тематических текстов/ Remember the following words and word combinations.

- | | |
|-----------------|---------------------|
| 1. device | устройство |
| 2. processing | обработка |
| 3. intelligence | разум |
| 4. hardware | оборудование |
| 5. software | программы |
| 6. procedures | процедуры, операции |
| 7. data | данные |
| 8. to perform | выполнять |
| 9. manner | манера, способ |
| 10. task | задача |
| 11. various | различные |
| 12. to convert | превращать |

Задание 2: Прочитайте текст и ответьте на следующие вопросы/ Read the text to answer the following questions.

- 1) What does the term *computer* describe?

- 2) When was the first computer introduced?
- 3) When was personal computers appeared?
- 4) What are the four components of a computer system?
- 5) What is software?
- 6) What's the difference between the hardware and software?
- 7) In what way terms *data* and *information* differ?
- 8) How does computer convert data into information?

WHAT IS A COMPUTER?

Computers appeared in people's life not long ago. In the middle of the 20th century common people had no idea about them. In 1951 the first commercially available computer was introduced. In 1975 personal computers appeared.

Computer is a device for processing information. Computer has no intelligence by itself and is called hardware. A computer system is a combination of four elements: 1) Hardware; 2) Software; 3) Procedures; 4) Data / Information.

Software is the programmers that tell the hardware how to perform a task. Without software instructions, the hardware doesn't know what to do. The basic job of the computer is the processing of information.

Computers take information in the form of instructions called programs and symbols called data. After that they perform various mathematical and logical operations, and then give the results (information). Computer is used to convert data into information. Computer is also used to store information in the digital form.

Задание 3: Какие из терминов имеют сходство в русском языке?/Which of the terms have similarities in Russian?

computer, diskette, metal, processor, scanner, information, data, microphone, printer, modem, internet.

Задание 4: Какие из приведенных ниже утверждений являются неправильными / правильными в соответствии с текстом? Аргументируйте свои ответы/ Which of the given below statements are wrong / right according to the text? Argue your answers.

1. Computer is made of electronic components so it is deferred to as electronic device.
2. Computer has no intelligence until software is loaded.
3. There are four elements of computer system: hardware, software, diskettes and data.
4. Without software instructions hardware doesn't know what to do.
5. The software is the most important component because it is made by people.
6. The user inputs data into computer to get necessary information as an output.

Задание 5: Заполните пробелы/Fill in the gaps.

- 1) Information in the form of instruction is called a
- 2) The basic job of the computer is the
 - a) program
 - b) processing of information

Задание 6: Прочитайте текст и ответьте на следующие вопросы/ Read the text and then answer the question.

Use the constructions:

«It would (not) be + adjective + to V»

«S + would (not) + V»

«S + could (not) + V»

- 1) What would be impossible to do without computers today?

THE ROLE OF THE COMPUTER TODAY

The role of the computer in our lives is currently growing from day to day. It can be explained by the fact that computers help people to do their work much more easily and quickly. They give people very quick and quality information, so in such a way people don't have to spend their time, turning leaves of dozens of books.

In today's world, computers are used nearly in all branches of industry. Even in that one that are dangerous and harmful to human health. Scientists can't imagine space research without using computers. Today computers can diagnose very severe illnesses and help to carry out operations.

Using a computer you can search something on the internet. It has many advantages. You can exchange information electronically. The Internet users can enjoy online media and they can help other people to solve their problems. It expands our knowledge and stimulates our curiosity.

Using the internet, you can meet different and interesting people. The internet also informs us about new trends. It provides us the possibility to talk with our friends online. The Internet helps us to use less television and watch only those films, which we want.

Задание 7: Прочитайте следующую информацию и напишите эссе на тему «Компьютеры в нашей жизни»/ Write an essay on the theme «Computers in our life».

План для написания эссе:

1. What is a computer?
2. Mention various fields where computers are used?

USES OF COMPUTER IN VARIOUS FIELDS

As the usage of computer increased it became a necessity for almost every field to use computers for their operations. Also, they have made working and sorting things easier. Below we are mentioning some of the important fields that use a computer in their daily operation.

Medical Field

They use computers to diagnose diseases, run tests and for finding the cure for deadly diseases. Also, they are able to find a cure for many diseases because of computers.

Research

Whether it's scientific research, space research or any social research computers help in all of them. Also, due to them, we are able to keep a check on the environment, space, and society. Space research helped us to explore the galaxies. While scientific research has helped us to locate resources and various other useful resources from the earth.

Defense

For any country, his defense is most important for the safety and security of its people. Also, computer in this field helps the country's security agencies to detect a threat which can be harmful in the future. Above all the defense industry use them to keep surveillance on our enemy.

Threats from a Computer

Computers have become a necessity also, they have become a threat too. This is due to hackers who steal your private data and leak them on internet. Also, anyone can access this data. Apart from that, there are other threats like viruses, spams, bug and many other problems.

The computer is a very important machine that has become a useful part of our life. Also, the computers have twin-faces on one side it's a boon and on the other side, it's a bane. Its uses completely depend upon you. Apart from that, a day in the future will come when human civilization won't be able to survive without computers as we depend on them too much. Till now it is a great discovery of mankind that has helped in saving thousands and millions of lives.

Frequently Asked Questions on Computer

ПРАКТИЧЕСКОЕ ЗАНЯТИЕ 28. СОСЛАГАТЕЛЬНОЕ НАКЛОНЕНИЕ.

Обучение правильному использованию сослагательного наклонения в английских предложениях. Активизация употребления сослагательного наклонения в тренировочных упражнениях.

Продолжительность: 180 мин.

Цель: Обучить правильному использованию сослагательного наклонения в предложениях. Активизировать употребление сослагательного наклонения в тренировочных упражнениях.

Задания к практическому занятию:

Задание 1: Раскройте скобки в условных предложениях I типа и поставьте глаголы в правильную форму/ Expand the brackets in type I conditionals and put the verbs in the correct form.

| Задание | Образец для оформления |
|---|--|
| <ol style="list-style-type: none"> 1. If he ... (practice) every day, he ... (become) a champion. (Если он будет тренироваться каждый день, он станет чемпионом.) 2. She ... (help) us if we ... (ask). (Она поможет нам, если мы попросим.) 3. If they ... (have) enough money, they ... (open) a restaurant next year. (Если у них будет достаточно денег, они откроют ресторан в следующем году.) 4. I ... (not talk) to you anymore if you ... (insult) me. (Я не буду с тобой больше разговаривать, если ты обидишь меня.) 5. If Bob ... (not keep) his word, Anna ... (be angry) with him. (Если Боб не сдержит слово, Анна разозлится на него.) | <ol style="list-style-type: none"> 1. If he practices every day, he will become a champion. |

Задание 2: Раскройте скобки в условных предложениях II типа и поставьте глаголы в правильную форму/ Expand the brackets in type II conditionals and put the verbs in the correct form.

| Задание | Образец для оформления |
|--|--|
| <ol style="list-style-type: none"> 1. If you ... (have) a driving license, you ... (get) this job. (Если бы у тебя были водительские права, ты бы получил эту работу.) 2. My dog ... (be) 20 years old today if it ... (be) alive. (Моей собаке исполнилось бы 20 лет сегодня, если бы она была жива.) 3. I ... (go) to the police if I ... (be) you. (Я бы обратился в полицию на твоём месте.) 4. If people ... (not buy) guns, the world ... (become) safer. (Если бы люди не покупали оружие, мир стал бы безопаснее.) 5. Tom ... (not eat) much "fast food" if his wife ... (cook) at home. (Том не ел бы много «фастфуда», если бы его жена готовила дома.) | <ol style="list-style-type: none"> 1. If you had a driving license, you would get this job. |

Задание 3: Раскройте скобки в условных предложениях III типа и поставьте глаголы в правильную форму/ Expand the brackets in type III conditionals and put the verbs in the correct form.

| Задание | Образец для оформления |
|---|--|
| <ol style="list-style-type: none"> 1. I ... (visit) Sarah yesterday if I ... (know) that she was ill. (Я бы навестил Сару вчера, если бы знал, что она больна.) 2. If you ... (go) with me to Paris last month, you ... (see) the Eiffel Tower too. (Если бы ты поехал со мной в Париж в прошлом месяце, ты бы тоже увидел Эйфелеву башню.) 3. We ... (not get wet) if you ... (take) an umbrella. (Мы бы не промокли, если бы ты взяла зонт.) | <ol style="list-style-type: none"> 1. I would have visited Sarah yesterday if I had known that she was ill. |

| | |
|--|--|
| <p>4. If Mum ... (not open) the windows, our room ... (not be) full of mosquitoes. (Если бы мама не открыла окна, наша комната не была бы полна комаров.) Nick ... (not be) so tired this morning if he ... (go to bed) early last night. (Ник не был бы таким уставшим этим утром, если бы рано лег спать прошлой ночью.)</p> | |
|--|--|

Задание 4: Подберите к первой части условных предложений (из первого столбика) их окончание (из второго столбика). Обратите внимание на тип условного предложения. Переведите получившиеся предложения.

Образец для выполнения:

1 – с (Мы бы испекли торт, если бы мы купили немного яиц вчера.)

| Задание | |
|--|--|
| <p>1) We would have made a cake 2) If it rains much 3) If I knew English well 4) My kids wouldn't have cried 5) I would call him 6) She will put this dress on</p> | <p>a) if he hadn't shouted at them. b) if she loses weight. c) if we had bought some eggs yesterday. d) if I were you. e) I would be an interpreter. f) the flowers will grow very fast.</p> |

Задание 5: Переведите предложения, обращая внимание на сослагательное наклонение/ Translate the sentences paying attention to the Subjunctive Mood.

1) We should play football if it were not raining. We should have played football if it hadn't been raining. 2) Carrie would play her part better if she were a true actress. Carrie would have played her part better if she had been a true actress. 3) It is necessary that he should buy winter shoes. 4) It is important that you should do this work yourself. 5) It is desirable that they should take part in the work of the conference. 6) The teacher suggests that we should stay after classes. 7) The teacher demands that the pupils shouldn't be late for classes. 8) I wish you didn't lose so much time. 9) I wish I were you.

Задание 6: Переведите условные предложения всех типов/ Translate all types of conditional sentences.

| Задание | Образец для оформления |
|---|--|
| <p>1. Если бы у меня был отпуск, я бы поехал на озеро Байкал. 2. Я посмотрю этот фильм, если он понравится тебе. 3. Если бы ты подписал документы вчера, мы бы отослали их сегодня. 4. Если бы Джон не потерял номер телефона, он бы позвонил ей. 5. Марк был бы здоровым мужчиной, если бы не курил. 6. Если я пойду в магазин, я куплю новый телефон.</p> | <p>1. If I had a holiday, I would go to the lake Baikal.</p> |

Задание 7: Контрольные вопросы по теме/Control questions.

1) Что означает сослагательное наклонение? 2) Как образуются основные формы сослагательного наклонения? 3) В каких типах придаточных предложений употребляется сослагательное наклонение? 4) В каких случаях употребляется форма прошедшего времени сослагательного наклонения от глагола to be? Какую форму принимают в этих случаях другие глаголы?

ПРАКТИЧЕСКОЕ ЗАНЯТИЕ 29. АППАРАТНОЕ ОБЕСПЕЧЕНИЕ.

Обучение навыкам понимания общего содержания текста по теме и активизация лексики в речи по данной теме.

Продолжительность: 90 мин.

Цель: Обучить навыкам понимания общего содержания текста по теме: «Аппаратное обеспечение». Активизировать лексику в речи по теме: «Аппаратное обеспечение».

Задания к практическому занятию:

Задание 1: Запомните следующие слова и словосочетания. Используйте их в качестве словаря для перевода последующих тематических текстов/ Remember the following words and word combinations:

| | |
|---|---------------------------------------|
| 1. input hardware | устройства ввода данных |
| 2. to convert | преобразовывать |
| 3. suitable | подходящий, пригодный |
| 4. keyboard | клавиатура |
| 5. mouse | «мышь» |
| 6. to roll | катать, перекатывать |
| 7. cursor | курсор |
| 8. to reach | достигать |
| 9. processing hardware | устройства обработки данных |
| 10. to direct | управлять |
| 11. execution | выполнение |
| 12. central processing unit (CPU), microprocessor | микروпроцессор |
| 13. brain | мозг |
| 14. to interpret | переводить, интерпретировать |
| 15. RAM ОЗУ | (оперативное запоминающее устройство) |
| 16. ROM ПЗУ | (постоянное запоминающее устройство) |
| 17. storage hardware | устройства хранения данных |
| 18. to retrieve | извлекать |
| 19. hard disk | жесткий диск, «винчестер» |
| 20. CD-ROM | накопитель на компакт-дисках (CD) |
| 21. digitized | в цифровом виде |
| 22. CD-ROM drives | дисководы CD-ROM |
| 23. to provide | обеспечивать |
| 24. graphics | графика |
| 25. temporary | временный |
| 26. output hardware | устройства отображения информации |
| 27. printer | печатающее устройство, принтер |

Задание 2: Прочтите и переведите текст, чтобы ответить на следующие вопросы / Read and translate the text to answer the following questions.

- 1) What is the Webster's dictionary definition of the hardware?
- 2) What groups of hardware exist?
- 3) What is input hardware? What are the examples of input hardware?
- 4) What is the mouse designed for?
- 5) What is processing hardware? What are the basic types of memory used in a PC?
- 6) What is storage hardware? What is CDRom used for? Can a user record his or her data on a CD? What kind of storage hardware can contain more information: CD-ROM, RAM or ROM?
- 7) What is modem used for? Can a PC user communicate with other people without a modem?

HARDWARE

Webster's dictionary gives us the following definition of the hardware – the devices composing a computer system.

Computer hardware can be divided into four categories:

- 1) input hardware
- 2) processing hardware
- 3) storage hardware
- 4) output hardware.

Input hardware collects data and converts them into a form suitable for computer processing. The most common input device is a keyboard. It looks very much like a typewriter. The mouse is a handheld device connected to the computer by a small cable. As the mouse is rolled across the desktop, the cursor moves across the screen. When the cursor reaches the desired location, the user usually pushes a button on the mouse once or twice to give a command to the computer.

Another type of input hardware is optic-electronic scanner. Microphone and video camera can be also used to input data into the computer.

Processing hardware directs the execution of software instructions in the computer. The most common components of processing hardware are the central processing unit and main memory.

The central processing unit (CPU) is the brain of the computer. It reads and interprets software instructions and coordinates the processing.

Memory is the component of the computer in which information is stored. There are two types of computer memory: RAM and ROM.

RAM (random access memory) is the memory, used for creating, loading and running programs.

ROM (read only memory) is computer memory used to hold programmed instructions to the system.

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

The purpose of storage hardware is to store computer instructions and data and retrieve when needed for processing. Storage hardware stores data as electromagnetic signals. The most common ways of storing data are hard disk, floppy disk and CD-ROM.

Hard disk is a rigid disk coated with magnetic material, for storing programs and relatively large amounts of data.

Floppy disk (diskette) – a thin, usually flexible plastic disk coated with magnetic material, for storing temporary computer data and programs. There are two formats for floppy disks: 5.25' and 3.5'. 3.5' disks are formatted 1.4 megabytes and are widely used.

CD-ROM (compact disc read only memory) is a compact disc on which a large amount of digitized data can be stored. CD-ROMs are very popular now because of the growing speed which CD-ROM drives can provide nowadays.

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

Monitor is a display screen for viewing computer data, television programs, etc.

Printer is a computer output device that produces a paper copy of data or graphics.

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

Hardware comes in many configurations, depending on what you are going to do on your computer.

Задание 3: Какие из приведенных ниже утверждений являются верными / неверными согласно тексту?/ Which of the statements given below are true / false according to the text?

Argue your answers:

- 1) The purpose of the input hardware is to collect data and convert them into a form suitable for computer processing.
- 2) Scanner is used to input graphics only.
- 3) CPU reads and interprets software and prints the results on paper.
- 4) User is unable to change the contents of ROM.
- 5) Printer is a processing hardware because it shows the information.
- 6) Modem is an electronic device that makes possible the transmission of data from one computer to another via telephone or other communication lines.

Задание 4: Дайте определения терминам, используя изученный текст/ Give the definitions to the terms using the studied text.

- | | | | |
|--------|----------------|------------|--------------|
| 1) CPU | 3) floppy-disk | 5) printer | 7) hard disk |
| 2) ROM | 4) CD-ROM | 6) modem | 8) keyboard |

Задание 5: Что такое аппаратное обеспечение?/What is hardware?

- | | |
|------------|--------------------------|
| 1) program | 6) instruction |
| 2) mouse | 7) cursor or the pointer |
| 3) CPU | 8) keyboard |
| 4) printer | 9) symbol |
| 5) modem | |

Задание 6: Составьте аннотацию текста «Аппаратное обеспечение» /Make a summary of text «Hardware».

1. The title of the text is ...
 2. The text is devoted to ...
 3. It consists of ...
 4. The first passage deals with ...
 5. The second (third, forth, etc.) passage deals with ...
 6. The main idea of the text is ...
 7. The information of the article (the text) is addressed to students (engineers, specialists, all those who are interested in) ...
 8. The article (text) may be recommended to ...
 9. The information of the article (text) is interesting (important, useful, hard to understand, rich in contents).
 10. The author comes to the conclusion that ...
- In conclusion the author says that ...

**ПРАКТИЧЕСКОЕ ЗАНЯТИЕ 30.
СОСТАВЛЕНИЕ РЕФЕРАТА ПО ТЕКСТУ «КОМПЬЮТЕРНЫЕ ОПЕРАЦИИ.
ТИПЫ ДАННЫХ»**

Обучение алгоритму составления реферата на основе текста.

Активизация использования лексики по теме.

Продолжительность: 90 мин.

Цель: Обучить алгоритму составления реферата на основе текста: «Компьютерные операции. Типы данных». Активизация использования лексики по данной теме.

Задания к практическому занятию:

Задание1: Изучите клише, которые помогут вам составить реферат/ Study the clichés which will help you to make a review:

а) для представления данных “шапки”:

- The title (the headline, the heading) of the article (text) is...
- It is published in the methodical book (in the text-book, in the journal / magazine, in the newspaper) “.....” of 2018.
- The author(s) of the article (text) is (are) ...

б) для информационной части аннотации:

- The article (text) deals with (touches upon, is devoted to, describes)...
- The main idea of the article (text) is to show ...
- It consists of (contains) ... parts (chapters) dealing with the information on ...
- A brief description of ... is given.
- It is spoken in short (in detail) about ...

- Special (much) attention is given (is paid) to ...

в) для заключительной части аннотации:

- The author comes to the conclusion that ...
- In conclusion the author says that ...
- The article (text) embodies good drawings, photographic illustrations, diagrams, schemes.
- The article (text) is (well, poorly, not profusely) illustrated with ...
- The information of the article (the text) is addressed to students (engineers, specialists, all those who are interested in) ...
- The article (text) may be recommended to ...
- The information of the article (text) is interesting (important, useful, hard to understand, rich in contents).

Задание 2. Запомните следующие слова и словосочетания. Используйте их в качестве словаря для перевода последующих тематических текстов/ Remember the following words and word combinations:

| | |
|----------------------|------------------------|
| 1. value | величина |
| 2. logical operation | логическая операция |
| 3. comparison | сравнение |
| 4. addition | сложение |
| 5. subtraction | вычитание |
| 6. false | ложный |
| 7. to benefit | получать пользу |
| 8. equal | равный |
| 9. to determine | определять |
| 10. to compare | сравнивать |
| 11. tool | инструмент |
| 12. microwave oven | микроволновая печь |
| 13. embedded | встроенный |
| 14. to accept | принимать |
| 15. flexible | гибкий, изменчивый |
| 16. advent | приход |
| 17. to expand | расширять |
| 18. sequence | последовательность |
| 19. to increase | увеличивать |
| 20. decimal point | десятичная точка |
| 21. to save | спасать, эд. экономить |

Ex. 3: Прочтите Текст «Компьютерные операции. Типы данных», а затем следуйте инструкциям алгоритма из упражнения 1 и упражнения 2, составьте реферат/ Read the Text «Computer operations. Types of data» and then follow instructions of Algorithm from Exercise 1 and Exercise 2 to write a review.

COMPUTER OPERATIONS. TYPES OF DATA

Much of the processing computers can be divided into two general types of operation. Arithmetic operations are computations with numbers such as addition, subtraction, and other mathematical procedures.

Early computers performed mostly arithmetic operations, which gave the false impression that only engineers and scientists could benefit from computers. Of equal importance is the computers ability to compare two values to determine if one is larger than, smaller than, or equal to the other. This is called a logical operation. The comparison may take place between numbers, letters, sounds, or even drawings. The processing of the computer is based on the computer's ability to perform logical and arithmetic operations.

Instructions must be given to the computer to tell it how to process the data it receives and the format needed for output and storage. The ability to follow the program sets computers apart from most tools. However, new tools ranging from typewriters to microwave ovens have embedded

computers, or built-in computers. An embedded computer can accept data to use several options in its program, but the program itself cannot be changed. This makes these devices flexible and convenient but not the embedded computers itself.

Types of data: With the advent of new computer applications and hardware, the definition of data has expanded to include many types.

Numeric data consists of numbers and decimal points, as well as the plus (+) and minus (-) signs. Both arithmetic operations and logical operations are performed on numeric data. This means that numbers can be used for calculations as well as sorted and compared to each other.

Text, or textual data, can contain any combination of letters, numbers and special characters. Sometimes textual data is known as alphanumeric data. Various forms of data that we can hear and see make up audio-visual data.

The computer can produce sounds, music and even human voice. It can also accept audioinformation as an input. Data can also take form of drawings and video sequences.

Physical data is captured from the environment. For example, light, temperature and pressure are all types of physical data. In many large «buildings», computer systems process several kinds of physical data to regulate operations.

Computers can set off security alarms, control temperature and humidity, or turn lights on and off, all in response to physical data. These applications increase people's safety and save the time and money.

Задание 4: Ответьте на следующие вопросы по тексту/ Answer the following questions.

- 1) In what two major parts could be computer operations divided?
- 2) What are arithmetic operations?
- 3) What are logical operations?
- 4) Can computer compare two graphical objects?
- 5) What makes computer so different from other tools?
- 6) What is an embedded computer?
- 7) What modern devices have embedded computers?
- 8) How many are types of data?
- 9) What is physical data?

Задание 5: Какие из приведенных ниже утверждений являются верными / неверными согласно тексту?/ Which of the given below statements are true / false according to the text?

Argue your answers.

- 1) Arithmetic operations are operations with numbers – subtraction and division.
- 2) Early computers gave false impression about their capabilities.
- 3) Logical operations are computer's ability to compare two values.
- 4) The major difference between the computer and tools lies in the flexibility of the program.
- 5) Embedded computers are found only in typewriters and ovens.
- 6) Microwave oven's program is flexible and could be changed because of the embedded computer.
- 7) Numeric data consist of numbers, decimal points and the (+) and (-) signs.
- 8) Computer can accept human speech as an audiovisual input data.

Задание 6: Дайте определение, используя словарь/ Give definitions using a dictionary.

- | | |
|-------------------------|----------------------|
| 1) software | 5) textual data |
| 2) arithmetic operation | 6) physical data |
| 3) logical operation | 7) audio-visual data |
| 4) numeric data | |

Задание 7: Заполните пробелы/Fill in the gaps.

- 1) ... are computations with numbers such as addition, subtraction, and other mathematical procedures.
- 2) The computers ability to compare two values to determine if one is larger than, smaller than, or equal to the other is called a ...
- 3) New tools ranging from typewriters to microwave ovens have embedded computers, or ... computers.

- 4) An ... can accept data to use several options in its program, but the program itself cannot be changed.
- 5) ... can be used for calculations as well as sorted and compared to each other.
- 6) ... can contain any combination of letters, numbers and special characters.
- 7) Various forms of data that we can hear and see make up... which is captured from the environment.

Задание 8: Напишите эссе на тему «Какие операции может выполнять компьютер?»/ Write an essay on the theme «What operations can computer perform?»

ПРАКТИЧЕСКОЕ ЗАНЯТИЕ 31. ВИДЫ ПРОГРАММНОГО ОБЕСПЕЧЕНИЯ.

Обучение письменной речи на основе составления реферата по данной теме.

Активизация лексики по данной теме.

Продолжительность: 90 мин.

Цель: Составить реферат по теме: «Виды программного обеспечения». Активизировать использование в речи лексики по теме: «Виды программного обеспечения».

Задания к практическому занятию:

Задание 1: Запомните следующие слова и словосочетания. Используйте их в качестве словаря для перевода последующих тематических текстов/ Remember the following words and word combinations:

| | |
|---------------------|--|
| 1. to complete | завершать |
| 2. to require | требовать |
| 3. equipment | оборудование |
| 4. to direct | управлять |
| 5. to conduct | проводить |
| 6. internal | внутренний |
| 7. control | управление |
| 8. specific | конкретный, определенный |
| 9. general-purpose | многоцелевой |
| 10. aid | помощь |
| 11. regard | отношение |
| 12. regardless | безотносительно, несмотря на |
| 13. memory capacity | емкость памяти |
| 14. to install | устанавливать, встраивать |
| 15. to transfer | переводить, переносить |
| 16. to provide with | обеспечивать чем-либо |
| 17. to secure | обеспечивать безопасность |
| 18. security | безопасность |
| 19. to develop | развивать, проявлять |
| 20. developer | разработчик |
| 21. to check | проверять |
| 22. to attach | присоединять |
| 23. Web-browser | браузер (программа, позволяющая пользователю искать и считывать информацию с глобальной электронной сети Internet) |
| 24. peripheral | периферийный |
| 25. to boot | запускать |
| 26. to handle | управлять |
| 27. gimmick | зд. приманка |

Задание 2: Прочитайте текст «Типы программного обеспечения»/ Read the text «Types of Software».

TYPES OF SOFTWARE

A computer to complete a job requires more than just the actual equipment or hardware we see and touch. It requires Software – programs for directing the operation of a computer or electronic data.

Software is the final computer system component. These computer programs instruct the hardware how to conduct processing. The computer is merely a general purpose machine which requires specific software to perform a given task. Computers can input, calculate, compare, and output data, as information. Software determines the order in which these operations are performed.

Programs usually fall in one of two categories: system software and applications software. System software controls standard internal computer activities. An operating system, for example, is a collection of system programs that aid in the operation of a computer regardless of the application software being used. When a computer is first turned on, one of the systems programs is booted or loaded into the computers memory. This software contains information about memory capacity, the model of the processor, the disk drives to be used, and more. Once the system software is loaded, the applications software can start to work.

System programs are designed for the specific pieces of hardware. These programs are called drivers and coordinate peripheral hardware and computer activities. User needs to install a specific driver in order to activate his or her peripheral device. For example, if you intend to buy a printer or a scanner you need to worry in advance about the driver program which, though, commonly goes along with your device. By installing the driver you teach your mainboard to understand the newly attached part.

Applications software satisfies your specific need. The developers of application software rely mostly on marketing research strategies trying to do their best to attract more users (buyers) to their software.

As the productivity of the hardware has increased greatly in recent years, the programmers nowadays tend to include all kinds of gimmicks in one program to make software interface look more attractive to the user. These class of programs is the most numerous and perspective from the marketing point of view.

Data communication within and between computers systems is handled by system software. Communications software transfers data from one computer system to another.

These programs usually provide users with data security and error checking along with physically transferring data between the two computer's memories.

During the past five years the developing electronic network communication has stimulated more and more companies to produce various communication software, such as Web-Browsers for Internet.

Задание 3: Ответьте на следующие вопросы/Answer the following questions.

- 1) What is software?
- 2) In what two basic groups software (programs) could be divided?
- 3) What is system software for?
- 4) What is an operating system – system or application software?
- 5) What is a driver?
- 6) What is application software?
- 7) What are application software for?
- 8) What is the tendency in application software market in recent years?
- 9) What is the application of the communication software?

Задание4: Что такое программное обеспечение?/ What is Software?

- | | |
|------------|---------------------|
| 1) Program | 6) Developer |
| 2) Mouse | 7) Operating system |
| 3) CPU | 8) Word processor |
| 4) Scanner | 9) Web-browser |
| 5) Modem | 10) Equipment |

Задание 5: Какие из приведенных ниже утверждений являются верными / неверными согласно тексту?/ Which of the given below statements are true / false according to the text? Argue your answers.

- 1) Computer programs only instruct the hardware how to handle data storage.
- 2) System software controls internal computer activities.
- 3) System software is very dependable on the type of application software being used.

- 4) The information about memory capacity, the model of the processor and disk drives is unavailable for system software.
- 5) The driver is a special device usually used by car drivers for floppy-disk driving.
- 6) It is very reasonable to ask for a driver when you buy a new piece of hardware.
- 7) Software developers tend to make their products very small and with poor interface to save computer resources.
- 8) Communication software is of great need now because of the new advances in communication technologies.
- 9) Application software is merely a general-purpose instrument.
- 10) Web-browsers are the class of software for electronic communication through the network.

Задание 6: Найдите в тексте следующие эквиваленты / Find equivalents in the text.

- 1) Программное обеспечение определяет порядок выполнения операций.
- 2) Прикладные программы выполняют поставленную вами конкретную задачу (удовлетворяют вашу потребность).
- 3) Этот класс программ самый многочисленный и перспективный с точки зрения маркетинга.
- 4) Системные программы предназначены для конкретных устройств компьютерной системы.
- 5) Устанавливая драйвер, вы учите систему понимать вновь присоединенное устройство.
- 6) Когда компьютер впервые включается, одна из системных программ должна быть загружена в его память.
- 7) Развитие систем электронной коммуникации за последние пять лет стимулировала много к производству соответствующих программных продуктов возрастающим числом компаний-разработчиков.

Задание 7: Дайте определения словам, приведенным ниже/ Give definitions to some words given below. Consult your dictionary.

- 1) Software
- 2) Driver
- 3) Application software
- 4) Operating system
- 5) Communication software
- 6) Computer
- 7) Peripheral device
- 8) Operating system

Задание 8: Прочитайте текст «Типы программного обеспечения и составьте реферат/ Read the Text «Types of Software» and then write a review.

**ПРАКТИЧЕСКОЕ ЗАНЯТИЕ 32.
ОПЕРАТИВНЫЕ СИСТЕМЫ.**

Составление реферата и активизация лексики в письменной речи по данной теме.

Выполнение лексико-грамматических упражнений.

Продолжительность: 90 мин.

Цель: Составить реферат по теме: «Оперативные системы».

Активизировать употребление лексики в речи по теме: «Оперативные системы».

Задания к практическому занятию:

Задание 1: Запомните следующие слова и словосочетания. Используйте их в качестве словаря для перевода последующих тематических текстов/ Remember the following words and word combinations:

- | | |
|---------------|-------------|
| 1. complex | сложный |
| 2. to consume | потреблять |
| 3. consumer | потребитель |
| 4. to realize | осознать |
| 5. smart | умный, умно |

| | |
|-----------------------------|----------------------------|
| 6. version | версия |
| 7. decade | декада, десять |
| 8. to enhance | расширять, увеличивать |
| 9. top | верх, вершина |
| 10. on top of DOS | сверху, на основе ДОС |
| 11. compatible | совместимый |
| 12. with a click of a mouse | одним нажатием кнопки мыши |
| 13. access | доступ |
| 14. to allow | позволять |
| 15. simultaneously | одновременно |
| 16. to desire | желать |

Задание 2: Прочитайте текст «Операционные системы» и ответьте на следующие вопросы/ Read the text «Operating systems» to answer the following questions.

- 1) What problems faced programmers in the 1940's and 1950's?
- 2) Why first programs were complex and time-consuming?
- 3) What are the basic functions of operating system?
- 4) What does DOS abbreviation means?
- 5) What company developed the first version of DOS operating system? For what purpose? Was the new operational system successful?
- 6) What is the difference between the PC-DOS and MS-DOS?
- 7) What does the abbreviation NT stand for? Is it DOScompatible? What are the basic requirements for NT?
- 8) Who is the developer of OS / 2?
- 9) What makes UNIX so different from the other operational systems?
- 10) What are the remarkable features of Windows 95?

OPERATING SYSTEMS

When computers were first introduced in the 1940's and 50's, every program written had to provide instructions that told the computer how to use devices such as the printer, how to store information on a disk, as well as how to perform several other tasks not necessarily related to the program. The additional program instructions for working with hardware devices were very complex, and time-consuming. Programmers soon realized it would be smarter to develop one program that could control the computer's hardware, which others programs could have used when they needed it. With that, the first operating system was born.

Today, operating systems control and manage the use of hardware devices such as the printer or mouse. They also provide disk management by letting you store information in files. The operating system also lets you run programs such as the basic word processor. Lastly, the operating system provides several of its own commands that help you to use the computer.

DOS is the most commonly used PC operating system. DOS is an abbreviation for disk operating system. DOS was developed by, a company named Microsoft. MS-DOS is an abbreviation for Microsoft DOS. When IBM first released the IBM PC in 1981, IBM licensed DOS from Microsoft for use on the PC and called it PC-DOS. From the users perspective, PC-DOS and MS-DOS are the same, each providing the same capabilities and commands.

The version of DOS release in 1981 was 1.0. Over the past decade, DOS has undergone several changes. Each time the DOS developers release a new version, they increase the version number.

Windows NT (new technology) is an operating system developed by Microsoft. NT is an enhanced version of the popular Microsoft Windows 3.0, 3.1 programs. NT requires a 386 or greater and 8 Mb of RAM. For the best NT performance, you have to use a 486 with about 16 Mb or higher. Unlike the Windows, which runs on top of DOS, Windows NT is an operating system itself. However, NT is DOS compatible. The advantage of using NT over Windows is that NT makes better use of the PC's memory management capabilities.

OS / 2 is a PC operating system created by IBM. Like NT, OS /2 is DOS compatible and provides a graphical user interface that lets you run programs with a click of a mouse. Also like NT, OS/2 performs best when you are using a powerful system. Many IBM-based PCs are shipped with OS / 2 preinstalled.

UNIX is a multi-user operating system that allows multiple users to access the system. Traditionally, UNIX was run on a larger mini computers to which users accessed the systems using terminals and not PC's. UNIX allowed each user to simultaneously run the programs they desired. Unlike NT and OS / 2, UNIX is not DOS compatible. Most users would not purchase UNIX for their own use.

Windows 95 & 98 are the most popular user-oriented operating systems with a friendly interface and multitasking capabilities. The usage of Windows 95 and its enhanced version Windows 98 is so simple that even little kids learn how to use it very quickly. Windows 95 and 98 are DOS compatible, so all programs written for DOS may work under the new operating system. Windows 95 requires 486 with 16 megabytes of RAM or Pentium 75-90 with 40 megabytes of free hard disk space.

Задание 3: Заполните пробелы/Fill in the gaps.

a)UNIX b) DOS c) NT d) OS / 2 e) Windows 95

- 1) Like NT, ... is DOS compatible and provides a graphical user interface that lets you run programs with a click of a mouse.
- 2) ... is the most commonly used PC operating system.
- 3) ... is a multi-user operating system that allows multiple users to access the system.
- 4) ... is an operating system developed by Microsoft, an enhanced version of the popular Microsoft Windows programs.
- 5) The usage of... is so simple that even little kids learn how to use it very quickly.

Задание 4: Какие из приведенных ниже утверждений являются верными / неверными согласно тексту?/ Which of the given below statements are true / false according to the text? Argue your answers.

- 1) When computers were first introduced in 40's and 50's programmers had to write programs to instruct CD-ROMs, laser printers and scanners.
- 2) The operational system controls and manages the use of the hardware and the memory usage.
- 3) There are no commands available in operating systems, only word processors.
- 4) Microsoft developed MS-DOS to compete with IBM's PC DOS.
- 5) NT requires computers with 486 CPU and 16 M random access memory.
- 6) OS / 2 is DOS compatible because it was developed by Microsoft.
- 7) Traditionally, UNIX was run by many users simultaneously.
- 8) Windows 95 and Windows 98 are DOS compatible and have very friendly and convenient interface.

Задание 5: Найдите в тексте следующие эквиваленты / Find equivalents in the text.

- 1) Современные операционные системы контролируют использование системного оборудования, например, принтера и мыши.
- 2) С точки зрения пользователя, операционные системы PC-DOS и MS-DOS идентичны, с равными возможностями и набором системных команд.
- 3) OS / 2 – DOS совместимая операционная система, позволяющая запускать программы при помощи графического интерфейса пользователя.
- 4) Операционная система также позволяет запускать программы, такие как простейший текстовый редактор.

Задание 6: Прочитайте текст «Операционные системы и составьте реферат/Read the Text «Operating systems» and then write a review.

ПРАКТИЧЕСКОЕ ЗАНЯТИЕ 33.

ВСЕМИРНАЯ ПАУТИНА И ИНТЕРНЕТ.

Составление реферата и активизация лексики по данной теме.

Выполнение лексико-грамматических упражнений.

Продолжительность: 90 мин.

Цель: Составить реферат по теме: «Всемирная паутина и Интернет». Активизировать употребление в речи лексики по теме: «Всемирная паутина и Интернет».

Задания к практическому занятию:

Задание 1: Запомните следующие слова и словосочетания. Используйте их в качестве словаря для перевода последующих тематических текстов/ Remember the following words and word combinations:

| | |
|-------------------------|--|
| 1. retrieve | извлекать |
| 2. variety | спектр |
| 3. humanities | гуманитарные науки |
| 4. recreation | развлечение |
| 5. share | делить |
| 6. network | сеть |
| 7. business transaction | коммерческие операции |
| 8. web | паутина |
| 9. browser | браузер |
| 10. access | доступ |
| 11. to provide | обеспечивать чем-либо |
| 12. provider | провайдер (компания, предоставляющая доступ к WWW через местные телефонные сети) |
| 13. broadcast live | передавать в прямом эфире |
| 14. to link | соединять |
| 15. hyperlink | гиперссылка |
| 16. to compete | соревноваться |

Задание 2: Прочитайте текст и ответьте на следующие вопросы/ Read the text «WWW and the Internet» to answer the following questions.

- 1) What is Internet used for?
- 2) Why so many activities such as e-mail and business transactions are possible through the Internet?
- 3) What is World Wide Web?
- 4) What is a Web browser?
- 5) What does user need to have an access to the WWW?
- 6) What are hyperlinks?
- 7) What resources are available on the WWW?
- 8) What are the basic recreational applications of WWW?

WWW AND THE INTERNET

Millions of people around the world use the Internet to search for and retrieve information on all sorts of topics in a wide variety of areas including the arts, business, government, humanities, news, politics and recreation. People communicate through electronic mail (email), discussion groups, chat channels and other means of informational exchange. They share information and make commercial and business transactions. All this activity is possible because tens of thousands of networks are connected to the Internet and exchange information in the same basic ways.

The World Wide Web (WWW) is a part of the Internet. But it's not a collection of networks. Rather, it is information that is connected or linked together like a web. You access this information through one interface or tool called a Web browser. The number of resources and services that are part of the World Wide Web is growing extremely fast.

In 2000 there were more than 40 million users of the WWW, and more than half the information that is transferred across the Internet is accessed through the WWW. By using a computer terminal (hardware) connected to a network that is a part of the Internet, and by using a program (software) to browse or retrieve information that is a part of the World Wide Web, the people connected to the Internet and World Wide Web through the local providers have access to a variety of information. Each browser provides a graphical interface. You move from place to place, from site to site on the Web by using a mouse to click on a portion of text, icon or region of a map. These items are called hyperlinks or links. Each link you select represents a document, an image, a video clip or an audio file somewhere on the Internet. The user doesn't need to know where it is, the browser follows the link.

All sorts of things are available on the WWW. One can use Internet for recreational purposes. Many TV and radio stations broadcast live on the WWW. Essentially, if something can be put into digital format and stored in a computer, then it's available on the WWW. You can even visit museums, gardens, cities throughout the world, learn foreign languages and meet new friends. And of course you can play computer games through WWW, competing with partners from other countries and continents.

Задание 3: Какие из приведенных ниже утверждений являются верными / неверными согласно тексту?/ Which of the given below statements are true / false according to the text? Argue your answers.

- 1) There are still not so many users of the Internet.
- 2) There is information on all sorts of topics on the Internet, including education and weather forecast.
- 3) People can communicate through e-mail and chat programs only.
- 4) Internet is tens of thousands of networks which exchange the information in the same basic way.
- 5) You can access information available on the World Wide Web through the Web browser.
- 6) You need a computer (hardware) and a special program (software) to be a WWW user.
- 7) You move from site to site by clicking on a portion of text only.
- 8) Every time the user wants to move somewhere on the web he/she needs to step by step enter links and addresses.
- 9) Films and pictures are not available on the Internet.
- 10) Radio and TV-broadcasting is a future of Internet. It's not available yet.

Задание 4: Дайте определения словам, приведенным ниже/ Give definitions to some words given below. Consult your dictionary.

- 1) Internet
- 2) World Wide Web
- 3) Web browser
- 4) Internet provider
- 5) Hyperlinks

Задание 5: Найдите в тексте следующие эквиваленты / Find equivalents in the text.

- 1) Объем ресурсов и услуг, которые являются частью WWW, растет чрезвычайно быстро.
- 2) Каждая ссылка, выбранная вами, представляет документ, графическое изображение, видеоклип или аудио-файл где-то в Интернет.
- 3) Интернет может быть также использован для целей развлечения.
- 4) Вы получаете доступ к ресурсам Интернет через интерфейс или инструмент, который называется веб-браузер.
- 5) Вся эта деятельность возможна благодаря десяткам тысяч компьютерных сетей, подключенных к Интернету и обменивающимися информацией в одном режиме.
- 6) Пользователи общаются через электронную почту, дискуссионные группы, чат-каналы (многоканальный разговор в реальном времени) и другие средства информационного обмена.

Задание 6: Прочитайте текст и напишите реферат/Read the Text «WWW and the Internet» and then write a review.

ПРАКТИЧЕСКОЕ ЗАНЯТИЕ 34. ПРОМЫШЛЕННАЯ ЭЛЕКТРОНИКА.

Составление сообщения и активизация лексики в речи по данной теме. Выполнение лексико-грамматических упражнений.

Продолжительность: 180 мин.

Цель: Составить сообщение по теме: «Промышленная электроника». Активизировать использование в речи лексики по теме: «Промышленная электроника».

Задания к практическому занятию:

Задание 1: Запомните следующие слова и словосочетания. Используйте их в качестве словаря для перевода последующих тематических текстов/ Remember the following words and word combinations:

| | |
|-----------------------------|----------------------------|
| 1. application | применение, приложение |
| 2. calculator | калькулятор |
| 3. computing | вычислительный |
| 4. current | ток |
| 5. digitization | переход на цифровой формат |
| 6. electricity | электричество |
| 7. film | 1. пленка 2. фильм |
| 8. imagine | представить |
| 9. increase | увеличиваться |
| 10. lightning | молния |
| 11. otherwise | иначе |
| 12. pass | проходить |
| 13. predecessor | предшественник |
| 14. previously | прежде |
| 15. purpose | цель |
| 16. semiconductor | полупроводник |
| 17. space | пространство |
| 18. tape | лента |
| 19. tape recorder | магнитофон |
| 20. transistor | транзистор |
| 21. tube | трубка |
| 22. undoubtedly | несомненно |
| 23. video-cassette recorder | видеомагнитофон |

Задание 2: Прочитайте текст «Промышленная электроника» и ответьте на следующие вопросы/ Read the text «Industrial electronics» to answer the following questions.

- 1) For what purposes are electronic equipment's used now? What do they help us to do?
- 2) Industrial electronics plays an important role today, doesn't it?
- 3) What electronic equipment's are usually found at home? What can you find at home?
- 4) What is the difference between electric and electronic devices?
- 5) Where do you actually see how electricity jumps through space?
- 6) What were the first electronic equipment's based on?
- 7) Did the first computers look like modem ones?
- 8) Did the next stage come when transistors or cassettes were invented?
- 9) Why did computers become smaller when microchips were introduced?
- 10) How is the latest period of industrial electronics development called?
- 11) What devices became compatible with computer?
- 12) What does electronics mean in our life?
- 13) Do you think that electronics does only good to people?
- 14) What will be the next period of industrial electronics development, in your opinion?

INDUSTRIAL ELECTRONICS

Hundreds of electronic equipment's are now used for scientific industrial and everyday purposes. They help to do jobs better or more rationally than before and take over jobs that couldn't be done otherwise. So, industrial electronics undoubtedly plays a very important role today. You can easily find many electronic types of equipment at home: a tape recorder, a TV set, a MP3 player, a computer and many others.

The application and use of electronic equipment's demands a good knowledge of their fundamentals.

In meters and lamps electricity flows in the wire. But inside any transistor or microchip (and previously, in radio tubes) electric current passes through the space (or semiconductor) separating certain parts in this detail. Such action is called electronic. It's not difficult to imagine it because the same happens in lightning. There you actually see how electricity jumps through space.

The first electronic equipment's used radio lamps. They were: a radio set, a TV set, computing machines predecessors of modem calculators), computers (which occupied big rooms), tape recorders.

The next stage came when transistors were invented. The devices became more powerful and much smaller. The number of devices increased greatly, some multifunctional devices appeared (radio + tape recorder).

Computers and calculators became smaller: cassette recorders and videocassette recorders appeared.

The next period was the period of microchips. They helped to reduce big parts of devices, computers and other devices.

The latest period of industrial electronics development is the period of total digitization of all electronic devices, making them compatible with the computer.

Photos are no longer made on film but on memory cards, cassettes and video cassettes are out of use. Television is also becoming digital.

Задание 3: Вставьте пропущенные слова/ Insert the missing words.

- 1) In lighting electricity ___ through ___.
- 2) What do you like more: watching ___ or listening to the ___?
- 3) I can't ___ how people lived without ___ devices.
- 4) Do you have any ___ at home? No, I have only disks. I'm for ___.
- 5) Does this camera have much ___? No, this camera is not digital. It has a 5-millimetre ___.
- 6) Devices which have ___, and not tubes are much smaller and much more powerful.
- 7) The number of digital devices ___ every year. We depend on ___ more and more.
- 8) Many electronic devices are used for ___, not for work.
- 9) Computers and digital cameras are ___ devices. It means that they can exchange information.

Задание 4: Закончить следующие предложения/Complete the following statements.

- 1) Electronic equipment's are used for ...
- 2) You can find many electronic equipment's at home: a TV set ...
- 3) Inside any transistor electric current passes ...
- 4) In lightning you actually see ...
- 5) The devices with transistors become ...
- 6) Microchips helped to reduce ...
- 7) Industrial electronics makes people's life ...

Задание 5: Напишите эссе по одной из тем/Write an essay on one of the following topics.

- 1) The role of industrial electronics in modern society.
- 2) Digitization and its influence on people's leisure time.

ПРАКТИЧЕСКОЕ ЗАНЯТИЕ 35. МОЯ БУДУЩАЯ ПРОФЕССИЯ.

Составление устного сообщения по данной теме. Обсуждение преимуществ и недостатков будущей профессии. Составление письменного сообщения по тексту.

Активизация лексики по данной теме.

Продолжительность: 180 мин.

Цель: Составить сообщение по теме: «Моя будущая профессия – технолог». Составить письменное сообщение по тексту. Активизировать использование в речи лексики по теме: «Моя будущая профессия – технолог».

Задания к практическому занятию:

Задание 1: Запомните следующие слова и словосочетания. Используйте их в качестве словаря для перевода последующих тематических текстов/ Remember the following words and word combinations:

| | |
|------------------------------|--|
| 1. achieve success (in) | достигать успеха |
| 2. backend of the process | конечная стадия процесса |
| 3. discretion | проницательность |
| 4. effort | усилие |
| 5. eventually | постепенно |
| 6. front-end of the process | начальная стадия процесса |
| 7. function | должностные обязанности |
| 8. highly qualified | высококвалифицированный |
| 9. industrial safety | техника безопасности на производстве |
| 10. lifetime | жизнь, время жизни |
| 11. mind | ум |
| 12. miserable | убогий, жалкий, плохой |
| 13. organizational abilities | организаторские способности |
| 14. plat | вести расчёты |
| 15. to possess | обладать способностями |
| 16. production process | производственный процесс |
| 17. safe handling | соблюдение правил техники безопасности |
| 18. salary | зарплата |
| 19. spoilage in production | производственный брак |
| 20. step-by-step | поэтапный |
| 21. technologist | технолог |
| 22. I think I will succeed. | Я думаю, у меня все получится. |

Задание 2. Прочитайте текст/ Read the text:

MY FUTURE PROFESSION IS A TECHNOLOGIST

I am a first-year college student of the Kuzbass State Technical University named after T. F. Gorbachev and study at the Institute of Professional Education.

My speciality is ... and I am specializing in My study will last for 3 years and 10 months.

I am going to be a technologist. I know there are many interesting professions in the world, including banker, teacher, architect but I want to be a technologist.

I think to be a technologist is a very interesting job. Technologist is a profession needed in all production processes. Wherever there is any equipment, good technologists who are able to maintain it at a high level are needed.

This specialist deals with a step-by-step technology of manufacturing. His function is to monitor and to control the quality of raw materials and manufactured products from the front-end of the production process to its backend, to plat and to prepare the necessary documentation. If there is spoilage in production, he should find its causes. Also he should monitor safe handling and safety engineering.

In order to achieve that I should do well at my study. The subjects studied at school and ones being studied at the university that I'm good at are algebra, geometry, physics, English, chemistry.

My parents say that technologist needs excellent technical knowledge, so they help me with that. Moreover, strong computer skills are required, as most of the equipment is computerized today. If I become a highly qualified specialist in the field of ..., I will definitely have to deal with machinery and software programs for problem solving.

Besides this specialist must possess organizational abilities, discretion, mathematical mind and be able to analyze. He talks with new people every day. A skilled technologist should be accurate, careful, concentrated and serious. He should work with computers, have creative idea. A technologist should speak one of the foreign languages I think.

A qualified specialist must constantly improve his skills not only through education but also by attending various events, foreign exhibitions, which improve the quality of knowledge.

Our country has huge potential; we can become first in all production sectors, so that in the future I want to work as a technologist to maintain manufacturing equipment and to invent new machines and devices, thereby contributing to the development of our state.

I don't worry about finding a job. The most important thing for me now is to study well and to graduate from the Institute.

I think this future profession is for me and I will succeed.

Задание 3: Ответьте на следующие вопросы к тексту/ Answer the following questions to the text «My future profession is a technologist».

- 1) Where do you study?
- 2) What are you specializing in?
- 3) What kind of skills should a technologist possess in his field?
- 4) What does this specialist deal with?
- 5) Where are technologists needed?
- 6) What should you do to be a good specialist?

Задание 4: Прочитайте следующий текст и озаглавьте его/ Read the following text to title it.

When a person finishes school or university, they start their career.

It's not easy to choose the right profession. It might also be hard to find a good job with a high salary. I always believed that you should choose the profession which is interesting to you. It is impossible to achieve success in something that you don't like. If you have to do something that is boring or makes you unhappy day after day, your life becomes miserable.

I think that one of the reasons why a lot of people are poor and depressed is because they work only for money. Even if it is good money, but the job is very hard, eventually you would start to hate your job.

It's not important what you do, but it's a lot more important if you get joy and energy from what you do. You might be a businessman, a builder, a carpenter, an artist, a sales person. If you like it, then you have a chance to be successful. So ask yourself some questions: *What do I like to do? What can I do day after day? Will my skills be useful to others? What profession can give me money with minimum efforts?*

Be honest with yourself. Don't do something because it's prestigious or popular. Remember, that it's your lifetime that you're going to spend.

Задание 5: Ответьте на вопросы к тексту/Answer some questions to the text.

- 1) What is this text about?
- 2) What is the main idea of this text?
- 3) What has the author succeeded in showing?
- 4) Do you agree with the point of this author?
- 5) What don't you agree with the author?
- 6) How would you characterize this information?

Задание 6: Как вы представляете свое будущее? Пожалуйста, ответьте на следующие вопросы/ How do you see your future profession? Please answer the following questions.

- 1) What kind of work are you interested in?
a) well paid b) interesting c) in a large and famous company d) quiet e) in an industry which has a future f) prestigious g) not to sit the whole day in the office h) to travel a lot
- 2) What position would you like to have?
a) to manage people – manager b) to work for someone else – employee c) to be your own boss – self-employed, businessman d) be responsible for everything – top manager, director e) to work for the state – state employee

Задание 7: Сделайте презентацию своей будущей профессии/ Make a presentation on your future profession.

ПРАКТИЧЕСКОЕ ЗАНЯТИЕ 36.
ВЫПОЛНЕНИЕ ЛЕКСИКО-ГРАММАТИЧЕСКОГО ТЕСТА.

Продолжительность: 90 мин.

Цель: Выполнить лексико-грамматический тест. Составить устное сообщение по одной из пройденных тем курса.

Задания к практическому занятию:

| Лексико-грамматический тест | | |
|-----------------------------|--|---|
| № п/п | Условие задания | Варианты решения |
| Укажите один вариант ответа | | |
| 1. | I ___ the report tomorrow. | A. write B. am writing C. will write D. have written |
| 2. | Водить машину на высокой скорости опасно. | A. To drive a car you should know how to do it. B. I need a car to drive on. C. To drive a car at a high speed is dangerous. D. It is dangerous to drive a car at a high speed. |
| 3. | You ___ work hard if you want to be a good specialist. | A. must B. can C. are able to D. may |
| 4. | ___ the text, please! | A. Reading B. Will read C. Are reading D. Read |
| 5. | He is thinking of leaving his job and going to Moscow. | A. Он думает о том, чтобы уйти с работы и уехать в Москву. B. Он думал бросить работу и уехать в Москву. C. Он думает о том, чтобы жить и работать в Москве. D. Он думает получить работу и жить в Москве. |
| 6. | There ___ fifteen flats in the building. | A. is B. are C. was D. be |
| 7. | She must make this decision ___ . | A. yourselves B. herself C. itself D. himself |
| 8. | ___ can answer this question? | A. Whom B. Who C. Whose D. What |
| 9. | There is ___ in the room. | A. somebody B. some C. any D. no |
| 10. | It is believed that this story is true. | A. Мы полагаем, что эта история правдива. B. Он полагает, что эта история правдива. C. Полагают, что эта история правдива. D. Она полагает, что эта история правдива. |
| 11. | Эти упражнения труднее, чем те. | A. Those exercises are more difficult than that one. |

| | | |
|-----|--|--|
| | | B. These exercises are more difficult than those ones. C. This exercise is more difficult than those ones. D. That exercise is more difficult than those ones. |
| 12. | We have classes ___ the schedule. | A. in order to B. according to C. instead of D. in front of |
| 13. | I have a friend ___ is very good at Maths. | A. which B. whom C. who D. when |
| 14. | Студенты сдают экзамены 2 раза в год, не правда ли? | A. Students are taking exams now, aren't they? B. A student takes exams 2 times a year, doesn't he? C. Students take exams 2 times a year, don't they? D. Students passed exams 2 years ago, didn't they? |
| 15. | ___ invented a radio? | A. When B. Where C. Who D. Why |
| 16. | Our region is rich ___ coal. | A. in B. with C. at D. of |
| 17. | Moscow and London are big ___ . | a) city b) citis c) cities d) citys |
| 18. | We don't have much time. We ___hurry. |) should b) have c) must d) might to |
| 19. | They can't go out because they ___. rain-coats and umbrellas. | a) have got b) aren't have c) don't have |
| 20. | Water ___. at 100 degrees. | a) boils b) is boiling c) will boil d) will have been boiling |
| 21. | Mr and Mrs Cooper and a friend of _____ are coming to see us. | them theirs their ours |
| 22. | I am afraid the problem is _____ than it seems. | much complicated much more complicated the most complicated more less complicating |
| 23. | George gave _____ to his father. | an Sunday Times Sunday Times the Sunday Times a Sunday Times |
| 24. | The basic function of a computer is to _____ information. | store feed process carry out |
| 25. | If he _____ for London by train, he will get there on Wednesday. | will leave left leave leaves |

| Найти соответствие между правой и левой колонками | | |
|---|---|---|
| 26. | <p>1. I study every day. 2. I am studying now. 3. I studied yesterday. 4. I have just studied. 5. I will study tomorrow. 6. I will be studying at 5 o'clock tomorrow.</p> | <p>Я только что отзанимался. Я буду заниматься завтра. Я занимаюсь сейчас. Я занимаюсь каждый день. Я занимался вчера. Я буду заниматься завтра в 5 часов. Я отзанимаюсь завтра к 5 часам</p> |
| 27. | <p>1. We know him to study this problem. 2. We know him to have studied this problem. 3. We know the problem to be studied. 4. We know the problem to have been studied.</p> | <p>Мы знаем, что он изучает эту проблему. Мы знаем, что он изучил эту проблему. Мы знаем, что эту проблему изучают. Мы знаем, что эту проблему изучили.</p> |
| 28. | <p>1. Where were you yesterday afternoon? 2. Who are you? 3. What is your occupation? 4. Where were they two hours ago?</p> | <p>I was at the Institute. Igor Ivanov. I'm an economist. They were at the theatre. His name is Oleg Rogov.</p> |
| 29. | <p>1. I had to do this work. 2. I should do this work. 3. I may do this work. 4. I might do this work.</p> | <p>Я должен был сделать эту работу. Мне следует сделать эту работу. Я смогу сделать эту работу. Я мог сделать эту работу. Я вынужден сделать эту работу.</p> |
| 30. | <p>1. He was not a programmer. 2. He will not be a programmer. 3. He is not going to be a programmer. 4. He is not a programmer.</p> | <p>Он не был программистом. Он не будет программистом. Он не собирается быть программистом. Он не является программистом. Он не стал программистом.</p> |
| 31. | <p>1. She is a good student and 2. They graduated from the Technical University 3. He doesn't feel well and 4. The problem must be discussed but</p> | <p>we are sure of her passing the examination well. and I am proud of their being good specialists. the doctor insists on his taking medicine. I don't like the idea of discussing it now. the dean insists on your attending all the lectures.</p> |
| 32. | <p>1. mobile 2. data 3. training 4. work 5. sales</p> | <p>a) station b) phone c) team d) processing e) course</p> |
| 33 | <p>Sacha: Hi, my name's Sacha. Faris: (1) _____. I'm Faris. Sacha: Do you work for IBM? Faris: (2) _____. Sacha: Which company do you work for? Faris: (3) _____. I'm the new Chief Systems Analyst. Sacha: (4) _____! Do you like your job? Faris: (5) _____.</p> | <p>a Absolutely – it's very interesting b Pleased to meet you c In San Francisco d Oh, congratulations e I'd love to f No, I don't g GF Systems</p> |

| | | |
|--------------|---|---|
| | <p>Sacha: Where are you based? Faris: (6) _____ . Sacha: Would you like to join me for lunch? Faris: (7) _____, thanks.</p> | |
| 34 | <p>A: How much does the new laptop (6) _____? B: £449. A: That's very (7) _____ . My new one was only £349. Are you going to (8) _____ it? B: I don't know. Perhaps I need to (9) _____ George an email and ask him. He's an expert. A: Good idea.</p> | <p>buy cost expensive much send</p> |
| 35 | «Устройство» | <p>a)device б)divise в)divice г)divese д)dyvice</p> |
| Кейс-задание | | |
| 36 | <p>Общий текст: Прочитайте текст и выполните задания. Automation 1. Automation is the use of control systems in concern with other applications of information technology to control industrial machinery and processes, reducing the need for human intervention. In the scope of industrialization, automation is a step beyond mechanization. 2. Automation plays an increasingly important role in the world economy and in daily experience. Engineers strive to combine automated devices with mathematical and organizational tools to create complex systems for a rapidly expanding range of applications and human activities. 3. Many roles for humans in industrial processes presently lie beyond the scope of automation. Tasks requiring subjective assessment or synthesis of complex sensory data, such as scents and sounds, as well as high-level tasks such as strategic planning, currently require human expertise. In many cases, the use of humans is more cost-effective than mechanical approaches even where automation of industrial</p> | <p>Задание: Определите, какое утверждение соответствует содержанию текста. Укажите один вариант ответа Automation is not a universal substitute of human's role in industrial processes. Automation concerns only industrial processes. The task of automation is to reduce the need for humans as it is too cost-effective. People can rely on automation in all industrial processes.</p> |

| | | |
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| | tasks is possible. | |
| 37 | <p>Общий текст: Прочитайте текст и выполните задания. Automation 1. Automation is the use of control systems in concern with other applications of information technology to control industrial machinery and processes, reducing the need for human intervention. In the scope of industrialization, automation is a step beyond mechanization. 2. Automation plays an increasingly important role in the world economy and in daily experience. Engineers strive to combine automated devices with mathematical and organizational tools to create complex systems for a rapidly expanding range of applications and human activities. 3. Many roles for humans in industrial processes presently lie beyond the scope of automation. Tasks requiring subjective assessment or synthesis of complex sensory data, such as scents and sounds, as well as high-level tasks such as strategic planning, currently require human expertise. In many cases, the use of humans is more cost-effective than mechanical approaches even where automation of industrial tasks is possible.</p> | <p>Задание: Завершите утверждение согласно содержанию текста. People need automation nowadays because ... Укажите один вариант ответа in some cases they can't do without it it intensifies their work greatly it provides them with additional workplaces it facilitates their daily life and work</p> |
| 38 | <p>Общий текст: Прочитайте текст и выполните задания. Automation 1. Automation is the use of control systems in concern with other applications of information technology to control industrial machinery and processes, reducing the need for human intervention. In the scope of industrialization, automation is a step beyond mechanization. 2. Automation plays an increasingly important role in the world economy and in daily experience. Engineers strive to combine automated devices with mathematical and organizational tools to create complex systems for a rapidly expanding range of applications and human activities. 3. Many roles for humans in industrial processes presently lie beyond the scope of automation. Tasks requiring</p> | <p>Задание: Ответьте на вопрос How does automation benefit to people? Укажите один вариант ответа People rely on it as their work is more cost-effective. Automation excludes people's role in industrial processes. Automation controls industrial machinery and processes, reducing the need for human intervention. Automation promotes further humans' development.</p> |

| | | |
|----|---|---|
| | <p>subjective assessment or synthesis of complex sensory data, such as scents and sounds, as well as high-level tasks such as strategic planning, currently require human expertise. In many cases, the use of humans is more cost-effective than mechanical approaches even where automation of industrial tasks is possible.</p> | |
| 39 | <p>Общий текст: Прочитайте текст и выполните задания. Automation 1. Automation is the use of control systems in concern with other applications of information technology to control industrial machinery and processes, reducing the need for human intervention. In the scope of industrialization, automation is a step beyond mechanization. 2. Automation plays an increasingly important role in the world economy and in daily experience. Engineers strive to combine automated devices with mathematical and organizational tools to create complex systems for a rapidly expanding range of applications and human activities. 3. Many roles for humans in industrial processes presently lie beyond the scope of automation. Tasks requiring subjective assessment or synthesis of complex sensory data, such as scents and sounds, as well as high-level tasks such as strategic planning, currently require human expertise. In many cases, the use of humans is more cost-effective than mechanical approaches even where automation of industrial tasks is possible.</p> | <p>Укажите один вариант ответа Automation has its advancements as well as shortcomings concerning the way of its application. In spite of playing a great role in industry, world economy and people's daily activities, automation can't entirely substitute people. Automation is the only way of advancement people's work and life. People rely on automation in controlling industrial processes, world economic growth.</p> |
| 40 | <p>Measurement of _____ was originally based on how much a man could lift.</p> | <p>Укажите один вариант ответа gravitation force pressure weight</p> |

СПИСОК ИСПОЛЬЗУЕМЫХ ИСТОЧНИКОВ

1 Основная литература

1. Planet of English: учебник английского языка для образовательных учреждений СПО на базе основного общего образования с получением среднего общего образования / Г. Т. Безкоровайная, Н. И. Соколова, Е. А. Койранская, Г. В. Лаврик. – 7-е изд., стер. – Москва: Академия, 2019. – 256 с. – (Профессиональное образование). – ISBN 9785446882861. – URL: <https://www.academia-moscow.ru/catalogue/4831/408556/>. – Текст: электронный.

2 Дополнительная литература

1. Полубиченко, Л. В. Английский язык для колледжей (a2-b2): учебное пособие для среднего профессионального образования / А. С. Изволенская, Е. Э. Кожарская; под редакцией Л. В. Полубиченко. — Москва: Издательство Юрайт, 2019. — 184 с. — (Профессиональное образование). — ISBN 978-5-534-09287-5. — Текст: электронный // ЭБС Юрайт [сайт]. — URL: <https://www.biblio-online.ru/bcode/427572> (дата обращения: 30.01.2020).

2. Гуреев, В. А. Английский язык. Грамматика (b2): учебник и практикум для среднего профессионального образования / В. А. Гуреев. — Москва : Издательство Юрайт, 2019. — 294 с. — (Профессиональное образование). — ISBN 978-5-534-10481-3. — Текст: электронный // ЭБС Юрайт [сайт]. — URL: <https://www.biblio-online.ru/bcode/430572> (дата обращения: 30.01.2020).

3. Аитов, В. Ф. Английский язык (a1-v1+): учебное пособие для среднего профессионального образования / В. Ф. Аитов, В. М. Аитова, С. В. Кади. — 13-е изд., испр. и доп. — Москва : Издательство Юрайт, 2020. — 234 с. — (Профессиональное образование). — ISBN 978-5-534-08943-1. — Текст: электронный // ЭБС Юрайт [сайт]. — URL: <https://www.biblio-online.ru/bcode/448454> (дата обращения: 30.01.2020).

4. Иванова, О. Ф. Английский язык. Пособие для самостоятельной работы учащихся (v1 — v2): учебное пособие для среднего профессионального образования / О. Ф. Иванова, М. М. Шиловская. — Москва: Издательство Юрайт, 2019. — 352 с. — (Профессиональное образование). — ISBN 978-5-534-09663-7. — Текст: электронный // ЭБС Юрайт [сайт]. — URL: <https://www.biblio-online.ru/bcode/442373> (дата обращения: 30.01.2020).

5. Стогниева, О. Н. Английский язык для ИТ-специальностей: учебное пособие для среднего профессионального образования / О. Н. Стогниева. — Москва: Издательство Юрайт, 2020. — 143 с. — (Профессиональное образование). — ISBN 978-5-534-07972-2. — Текст: электронный // ЭБС Юрайт [сайт]. — URL: <https://www.biblio-online.ru/bcode/449184> (дата обращения: 30.01.2020).

6. Бутенко, Е. Ю. Английский язык для ИТ-специальностей. IT-English: учебное пособие для среднего профессионального образования / Е. Ю. Бутенко. — 2-е изд., испр. и доп. — Москва: Издательство Юрайт, 2019. — 119 с. — (Профессиональное образование). — ISBN 978-5-534-07790-2. — Текст: электронный // ЭБС Юрайт [сайт]. — URL: <https://www.biblio-online.ru/bcode/437372> (дата обращения: 30.01.2020).

7. Краснова, Т. И. Английский язык для специалистов в области интернет-технологий. English for internet technologies: учебное пособие для среднего профессионального образования / Т. И. Краснова, В. Н. Вичугов. — 2-е изд. — Москва: Издательство Юрайт, 2019. — 205 с. — (Профессиональное образование). — ISBN 978-5-534-07322-5. — Текст: электронный // ЭБС Юрайт [сайт]. — URL: <https://www.biblio-online.ru/bcode/441781> (дата обращения: 30.01.2020).

3 Методическая литература

1. Иностранный язык. Английский: методические указания к практическим занятиям и самостоятельной работе для студентов 1 курса всех специальностей СПО очной формы обучения / ФГБОУ ВО "Кузбас. гос. техн. ун-т им. Т. Ф. Горбачева", Каф. теории и методики проф. образования ; сост.: С. В. Лебединцев, М. А. Перловская. – Кемерово: КузГТУ, 2018. – 155 с. – URL: <http://library.kuzstu.ru/meto.php?n=9217> (дата обращения: 09.01.2020). – Текст: электронный.

4 Интернет ресурсы

1. Официальный сайт Кузбасского государственного технического университета имени Т.Ф. Горбачева. Режим доступа: <https://kuzstu.ru/>.

2. Официальный сайт филиала КузГТУ в г. Белово. Режим доступа: <http://belovokyzgty.ru>.
3. Longman Dictionary of Contemporary English – режим доступа - <https://www.ldoceonline.com/>
4. <http://www.expocentr.ru/ru/articles-of-exhibitions/obshhaya-harakteristika-vystavochnoj-deyatelnosti/>.
5. https://en.wikipedia.org/wiki/Trade_fair.
6. Электронные библиотечные системы:
 - Электронная библиотека издательства Юрайт [Электронный ресурс]. – Режим доступа: <https://biblio-online.ru/catalog/spo>.
 - Электронная библиотека издательства Академия [Электронный ресурс]. – Режим доступа: <https://academia-library.ru/>.