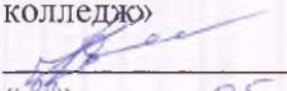


Министерство образования и науки Тамбовской области
Тамбовское областное государственное бюджетное
профессиональное образовательное учреждение
«Мичуринский агросоциальный колледж»
(ТОГБПОУ «Мичуринский агросоциальный колледж»)

УТВЕРЖДАЮ
Директор ТОГБПОУ
«Мичуринский агросоциальный
колледж»

О.В. Котельникова
«22» 05 2023 г.

**Фонд оценочных средств
учебной дисциплины
СГ.02 Иностранный язык в профессиональной деятельности (английский)
программы подготовки специалистов среднего звена
по профессии
09.01.03 Оператор информационных систем и ресурсов**

РАССМОТРЕНО
На заседании методического совета
Протокол № 10 от 22.05. 2023г.
Председатель  А.В. Свиридов

Фонд оценочных средств разработан на основе Федерального государственного образовательного стандарта среднего профессионального образования по профессии 09.01.03 Оператор информационных систем и ресурсов

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Председатель Щетинина О.С. /Щетинина О.С./

Согласовано:

Зам. директора по УПР

Щетинина О.С. С.Ю. Гусельникова

« 21 » 05 2023 г.

I. Паспорт фонда оценочных средств

1. Область применения фонда оценочных средств

Фонд оценочных средств предназначен для контроля и оценки образовательных достижений обучающихся, освоивших программу учебной дисциплины СГ.02 Иностранный язык в профессиональной деятельности (английский).

Фонд оценочных средств включает контрольные материалы для проведения текущего контроля и промежуточной аттестации в форме дифференцированного зачета.

Фонд оценочных средств разработан на основании:
основной профессиональной образовательной программы по профессии 09.01.03 Оператор информационных систем и ресурсов;

программы учебной дисциплины СГ.02 Иностранный язык в профессиональной деятельности (английский).

Таблица 1

| Наименование объектов контроля и оценки (объекты оценивания) ¹ | Основные показатели оценки результата и их критерии | Тип задания; № задания | Форма аттестации (в соответствии с учебным планом) |
|--|---|--|--|
| У1 строить простые высказывания о себе и о своей профессиональной деятельности; | общается устно и письменно на иностранном языке в рамках изучаемых тем; | Тестовые задания по теме, практическое задание | Дифференцированный зачет |
| У2 взаимодействовать в коллективе, принимать участие в диалогах на общие и профессиональные темы; применять различные формы и виды устной и письменной коммуникации на иностранном языке при межличностном и межкультурном взаимодействии; | поддерживает диалог (диалог– расспрос, диалог– обмен мнениями/суждениями, диалог– побуждение к действию, этикетный диалог и их комбинации) в ситуациях официального и неофициального общения в бытовой, социокультурной и учебнотрудовой сферах | Тестовые задания по теме, практическое задание | |
| У3 понимать общий смысл четко произнесенных высказываний на общие и базовые профессиональные темы | Самостоятельно пополняет словарный запас | Тестовые задания по теме, практическое задание | |
| У4 понимать тексты на базовые профессиональные темы; составлять простые связные сообщения на общие или интересующие профессиональные темы | Понимает значения новых лексических единиц, связанных с тематикой данного этапа и с соответствующими ситуациями общения; | Тестовые задания по теме, практическое задание | |
| У5 общаться (устно и письменно) на иностранном | выделение всех возможных источников нужных | Тестовые задания | |

¹ Личностные результаты обучающихся в соответствии с Рабочей программой воспитания по профессии 09.01.03 Оператор информационных систем и ресурсов учитываются в ходе оценки результатов освоения учебной дисциплины.

| | | | |
|---|---|--|--|
| языке на профессиональные и повседневные темы | ресурсов, в том числе неочевидных | по теме, практическое задание | |
| У6 переводить иностранные тексты профессиональной направленности (со словарем); | | Тестовые задания по теме, практическое задание | |
| У7 самостоятельно совершенствовать устную и письменную речь, пополнять словарный запас | | Тестовые задания по теме, практическое задание | |
| 31 лексический (1200-1400 лексических единиц) и грамматический минимум, необходимый для чтения и перевода (со словарем) иностранных текстов профессиональной направленности. | демонстрирует знания актуального профессионального и социального контекста, в котором необходимо вести профессиональную деятельность; | Тестовые задания по теме, практическое задание | |
| 32 лексический и грамматический минимум, относящийся к описанию предметов, средств и процессов профессиональной деятельности; | демонстрирует знания основных источников информации и ресурсы для решения задач и проблем в профессиональном и/или социальном контексте; | Тестовые задания по теме, практическое задание | |
| 33 лексический и грамматический минимум, необходимый для чтения и перевода текстов профессиональной направленности (со словарем); | Владеет языковым материалом в рамках изучаемых тем; | Тестовые задания по теме, практическое задание | |
| 34 общеупотребительные глаголы (общая и профессиональная лексика); правила чтения текстов профессиональной направленности; правила построения простых и сложных предложений на профессиональные темы; | Имеет представление об изученных глагольных формах (видовременных, неличных), способах выражения модальности; условиях, предположениях, причинах, следствиях, побуждениях к действию; | Тестовые задания по теме, практическое задание | |
| 35 правила речевого этикета и социокультурные нормы общения на иностранном языке; | Владеет лингвострановедческой, страноведческой и социокультурной информацией | Тестовые задания по теме, практическое задание | |
| 36 формы и виды устной и письменной коммуникации на | Имеет представление об общем содержании текстов, | Тестовые задания | |

| | | | |
|---|---|--|--|
| иностранным языке при межличностном и межкультурном взаимодействии | построенных на языковом материале повседневного и профессионального общения | по теме, практическое задание | |
| ОК 01. Выбирать способы решения задач профессиональной деятельности применительно к различным контекстам | Выбирает способы решения задач профессиональной деятельности применительно к различным контекстам | Тестовые задания по теме, практическое задание | |
| ОК 02. Использовать современные средства поиска, анализа и интерпретации информации и информационные технологии для выполнения задач профессиональной деятельности; | Экспертное наблюдение и оценивание выполнения индивидуальных и групповых заданий. Оценка результата выполнения практических работ. Текущий контроль в форме собеседования, решения ситуационных задач | Тестовые задания по теме, практическое задание | |
| ОК 04. Эффективно взаимодействовать и работать в коллективе и команде; | Экспертное наблюдение и оценивание выполнения индивидуальных и групповых заданий. Оценка результата выполнения практических работ. Текущий контроль в форме собеседования, решения ситуационных задач | Тестовые задания по теме, практическое задание | |
| ОК 09. Пользоваться профессиональной документацией на государственном и иностранном языках. | Экспертное наблюдение и оценивание выполнения индивидуальных и групповых заданий. Оценка результата выполнения практических работ. Текущий контроль в форме собеседования, решения ситуационных задач | Тестовые задания по теме, практическое задание | |

2. Комплект оценочных средств

2.1. Задания для текущего контроля

Раздел 1. Роль иностранного языка в профессиональной деятельности ЗАДАНИЕ № 1 (теоретическое)

Текст задания: Правильно ответить на вопросы

Инструкция: Данная работа состоит из 15 заданий. Прежде, чем приступить к его выполнению, подумайте, в чем заключается смысл задания. Выполняя задания, необходимо выбрать один или несколько правильных ответов.

1. If a limited liability company fails the investors will ... their initial investment

- a) losers
- b) lose**
- c) loser
- d) loose

2. An equitable distribution of income means that the fruits of the economy are divided in a way that seems fair to the majority of the

- a) mignons
- b) people**
- c) apple
- d) pupil

3. ... enterprise means that decisions about what and how much to produce are left to the discretion of owners and managers.

- a) Cool
- b) Yeah
- c) Real
- d) Private**

4. Promotion можно перевести как:

- a) продвижение**
- b) прототип
- c) передвижение
- d) просто

5. Earnings from transportation and from foreign travel ... be an important source of revenue for international airlines

- a) have
- b) did
- c) can**
- d) why

6. I am afraid I ... agree to that

- a) mustnot
- b) maynot
- c) cannot
- d) can not**

7. We can completely ... the meaning of phrases

- a) changing
- b) change**
- c) to change
- d) changed

8. The board ... directors selects the president and vice president

- a) at
- b) by
- c) in
- d) of**

9. Businessmen ... know the rules of business etiquette and follow them

- a) should to
- b) want
- c) should**
- d) wants to

10. A corporation is a ... owned by a few persons or by thousands of persons

- a) businesses
- b) business**
- c) busines
- d) bisness

11. Доход переводится как:

- a) come out
- b) income**
- c) come
- d) come on

12. Operating as a proprietorship is the ... way to get started in a business activity
- a) easier
 - b) easiest**
 - c) easy
 - d) ease
13. Joining the euro is ... highly debated
- a) be
 - b) been
 - c) being**
 - d) was
14. Managers often set the ... of new products too low
- a) rice
 - b) price**
 - c) raise
 - d) praise
15. Потребитель можно перевести как:
- a) resume
 - b) solicitor
 - c) consumer**
 - d) presumer

Эталон ответов

| № задания | Правильный ответ |
|-----------|------------------|
| 1 | b |
| 2 | b |
| 3 | d |
| 4 | a |
| 5 | c |
| 6 | d |
| 7 | b |
| 8 | d |
| 9 | c |
| 10 | b |
| 11 | b |
| 12 | b |
| 13 | c |
| 14 | b |
| 15 | c |

Критерии оценки:

За правильное выполнение каждого из заданий начисляется 1 балл.
За неправильный ответ на вопросы баллы не начисляются.

Шкала оценки образовательных достижений

| Процент результативности (правильных ответов) | Оценка уровня подготовки | |
|---|--------------------------|---------------------|
| | балл (отметка) | вербальный аналог |
| 90 - 100 | 5 | отлично |
| 70 - 89 | 4 | хорошо |
| 55 - 79 | 3 | удовлетворительно |
| менее 55 | 2 | неудовлетворительно |

Текст задания: Правильно ответить на вопросы

Инструкция: Тест состоит из 30 заданий. Прежде, чем приступить к его выполнению, подумайте, в чем заключается смысл задания. Выполняя задания, необходимо выбрать один или несколько правильных ответов.

Вариант I

1. In hot countries people made their homes in the ____ and used leaves to protect themselves from rain or sun.

- a) trees
- b) roofs
- c) roads
- d) tables
- e) sun

2. In colder countries they dwelt in ____

- a) mountains
- b) caves
- c) moon
- d) towns
- e) cities

3. Later people left their caves and trees and began to build houses of different materials such as ____

- a) air, water, sugar
- b) salt, stones, ground
- c) mud, wood, stones
- d) concrete, brick, salt
- e) sugar, milk, coffee

4. Concrete is an artificial kind of stone, much cheaper than ____

- a) wood
- b) leaves
- c) stones
- d) brick
- e) mud

5. Modern buildings have

- a) two major parts
- b) three major parts
- c) six major parts
- d) five major parts
- e) four major parts

6. Many thousands of years ago there were no houses people live in ____

- a) houses
- b) palaces
- c) trees or caves

- c) streets
- d) water

7. Egyptian pyramids are made of _____

- a) stone
- b) wood
- c) brick
- d) water
- e) milk

8. The cheapest building material is _____

- a) wood
- b) brick
- c) concrete
- d) sugar
- e) water

9. _____ is a man who erects wood frames, fixed wood floors, stairs and window frames.

- a) carpenter
- b) doctor
- c) teacher
- d) student
- e) driver

10. _____ is a tradesman who builds and repairs brickwork, lays frames.

- a) carpenter
- b) teacher
- c) mason
- d) bricklayer
- e) student

11. _____ is a stone worker or stone setter.

- a) teacher
- b) student
- c) mason
- d) carpenter
- e) doctor

12. is a tradesman who may be a fibrous plasterer or a plasterer in solid work.

- a) Plasterer)
- b) Electrician
- c) Crane operator
- d) Mason
- e) plumber

13. There are two couches and an armchair in the _____.

- a) master bedroom d) utility room
- b) living room e) kitchen
- c) bathroom

14. What is the English for “плотник”?

- a) teacher
- b) brick
- c) use
- d) size
- e) carpenter

15. The low level of monument is situated _____

- a) underground
- b) over ground
- c) in the sky
- d) in the river

e) in the ocean

16. She ___ in the construction site an hour ago.

a) working

b) work

c) worked

d) has worked

e) works

17. Westudy special subjects next year.

a) shall study

b) studying

c) were studying

d) studies

e) study

18. Wemane houses last year.

a) building

b) was building

c) builds

d) were build

e) built

19. Find international word

a) specialist

b) skilled worker

c) a builder

d) building trade

e) plumber

20. He ___ his leg while riding his bike at the weekend.

a) was break

b) broke

c) breaking

d) was breaking

e) were breaking

21. The dead load of a building the weights of the ceilings the frame the floor roofs and the walls

a) includes

b) included

c) has included

d) will include

e) include

22. When I was young I ___ to be a engineer

engineer

a) was wanting

b) were want

c) wanted

d) wanting

e) wants

23. What does construction of a building start with?

a) foundation

b) building material

c) sand

d)decoration

e) excavation

24. We ___ a contract last year.

a) has signed

- b) signed
- c) haven't sign
- d) have sign
- e) signing

25. I ___ back from a business trip to France last weekend.

- a) come
- b) came
- c) never came
- d) have just come
- e) will come

26. Where ___ you go yesterday morning?

- a) had
- b) have
- c) has
- d) did
- e) is

27. The buildings erected in nowadays can be divided into

- a) six general classes
- b) three general classes
- c) five general classes
- d) four general classes
- e) two general classes

28. He ___ many instruments.

- a) have
- b) has
- c) haves
- d) have got
- e) having

29. Who decides the size of the walls the floors the beams the girders?

- a) bricklayer
- b) Builder
- c) Welder
- d) Architect
- e) Master

30. The water supply and sewerage systems are called

- a) Plumbing
- b) Electricity
- c) Ventilation
- d) Heating system
- e) Building

Вариант II

1. There is silver amulet Tumar at the height ___ with the palm-print of ____

- a) 100 metre, D. Medvedev
- b) 198 metre, B. Clinton
- c) 676 metre, B. Obama
- d) 97 metre, N. Nazarbaev
- e) 50 metre, G. Bush

2. The student construction teams first appeared during ____

- a) the reclamation of Constitution
- b) the reclamation of virgin lands in 1959
- c) the laying railways in 1962
- d) the laying underground in 1959

e) the adaptation of the Constitution

3. The first student construction team worked at _____

a) a local power station in Altai

b) a factory in the USA

c) in a capital of our country

d) in Great Britain

e) a state farm in Kazakhstan

4. The students study builder's professions at _____

a) institutes and universities

b) factory schools of construction organizations

c) the private schools

d) Petropavlovsk building-economical college

e) schools

5. Each team has foremen of _____

a) its own

b) construction organization

c) a teacher

d) private teacher

e) 2012

6. The student's movement is _____

a) unused

b) obligatory

c) voluntary

d) economical

e) easy

7. I study at _____ of our college.

a) Building Department

b) Bookkeeping Department

c) Law Department

d) Technological Department

e) I don't know

8. The weight of each brick is from _____

a) 3 – 6 kg

b) 1,5 – 2 kg

c) 3,5 – 4 kg

d) 0,5 – 1,5 kg

e) 7 – 8 kg

9. The ancient _____ discovered how to cut stone for building purposes.

a) Kazakhs

b) Russians

c) Americans

d) Egyptians

e) Italians

10. The Baiterek monument is situated in _____.

a) Almaty

b) Pavlodar

c) Petropavlovsk

d) Shymkent

e) Astana

11. Concrete is _____ in compression but weak when used for stresses.

a) green

b) grey

- c) strong
- d) usefulness
- e) black

12. Plastics can be applied _____

- a) only in radio engineering
- b) to almost every branch of building
- c) in all shops yesterday
- d) in our college in recent years
- 5) nowhere

13. Plastics are used _____

- a) only for decoration
- b) -
- c) for decoration of our college
- d) for walls and roofs
- e) not only for decoration

14. The contrast between London and Astana is _____

- a) truly remarkable
- b) beautiful
- c) fantastic
- d) usefulness
- e) awful

15. There are 4 rooms in my ____.

- a) flat
- b) book
- c) flower
- d) picture
- e) TV set

16. A builder ____ a lot of countries.

- a) visiting
- b) was visited
- c) visited
- d) was visiting
- e) have visiting

17. A master ____ the window twice last week.

- a) cleaning
- b) was clean
- c) has cleaning
- d) cleaned
- e) will clean

18. Did you ____ the film on TV last night?

- a) watch
- b) watched
- c) watching
- d) have watch
- e) to watch

19. I played tennis yesterday but I ___ win.

- a) do not
- b) does not
- c) did not
- d) was not
- e) am not

20. Yesterday he ___ to work by car.

- a) was going
- b) went
- c) was went
- d) going
- e) gone

21. I ___ my teeth three times yesterday.

- a) cleaning
- b) clean
- c) was clean
- d) was cleaned
- e) cleaned

22. Did she ___ to the theatre last week?

- a) go
- b) went
- c) going
- d) was going
- e) gone

23. He ___ home early yesterday in the evening because he felt ill.

- a) go
- b) going
- c) gone
- d) went
- e) goes

24. The party ___ very good, so we didn't stay long.

- a) was not
- b) did not
- c) were not
- d) do not
- e) will be

25. We ___ a lot of work yesterday.

- a) done
- b) do
- c) was doing
- d) doing
- e) did

26. The party ___ at midnight.

- a) was finishing
- b) was finish
- c) finished
- d) finish

e) finishing

27. Caroline ___ to the cinema three times last week.

- a) going
- b) was gone
- c) went
- d) go
- e) gone

28. What ___ yesterday?

- a) did you do
- b) you doing
- c) did you doing
- d) had you done
- e) do you did

29. I saw Barbara but I didn't ___ Jane.

- a) to see
- b) saw
- c) seen
- d) seeing
- e) see

30. My friend in the construction site.

- a/ works
- b/ work
- c/ will work
- d/ working
- e/ has worked

Эталон ответов:

| | Вариант I | Вариант II |
|----|-----------|------------|
| 1 | a | d |
| 2 | b | b |
| 3 | c | e |
| 4 | d | d |
| 5 | b | a |
| 6 | c | c |
| 7 | a | a |
| 8 | c | b |
| 9 | a | d |
| 10 | d | e |
| 11 | c | c |
| 12 | a | b |
| 13 | b | e |
| 14 | e | a |
| 15 | a | a |
| 16 | c | c |
| 17 | a | d |
| 18 | e | a |

| | | |
|----|---|---|
| 19 | a | c |
| 20 | b | b |
| 21 | a | e |
| 22 | c | a |
| 23 | e | d |
| 24 | b | a |
| 25 | b | e |
| 26 | d | c |
| 27 | e | c |
| 28 | b | a |
| 29 | d | e |
| 30 | a | a |

Критерии оценивания:

40-37 правильных ответов – оценка “5”
36-33 правильных ответов – оценка “4”
32-28 правильных ответов – оценка “3”
менее 28 – оценка “2”

Раздел 2. Профессиональное содержание
ЗАДАНИЕ № 2 (теоретическое)

Текст задания: Правильно ответить на вопросы

Инструкция: Тест состоит из 10 заданий. Прежде, чем приступить к его выполнению, подумайте, в чем заключается смысл задания. Вспомните значения терминов, понятий, указанных в вопросе. Выполняя задания, необходимо выбрать один или несколько правильных ответов.

Соотнесите заголовки с текстами:

1. No longer first
 2. New machine of its own
 3. Do not worry, just wait
 4. Unsatisfied politicians
 5. For competition not for customers
 6. Do you really need an employment?
 7. On-line and private
 8. A free letter morning
1. Apple should be a lot more worried about its latest bug than it appears to be. Scheduling the Do Not Disturb function in iOS has been broken since New Year’s Day and as with any error from Apple, it’s got plenty of press. The bug, caused by the way the underlying operating system handles the change in year, will fix itself by January 7 but the inconvenience is a sign post to something bigger. This isn’t the first time iOS has suffered from date-related bugs. In November 2010, iOS 4 got confused by the switch to Daylight-saving time, left alarms unadjusted and caused users to oversleep. Then in January 2011, iOS 5 suffered from a bug where non-repeating alarms set before the New Year failed to ring. Apple’s response then was the same as to the Do Not Disturb issue now – wait and it will fix itself. When something goes wrong with an Apple product, the company’s tone is often one of weary surprise that anyone is bothered, as if faults are just features you haven’t noticed before.
 2. Many people have felt the awful sensation of something they thought was private on a social networking site going public. Facebook’s privacy settings are pretty secret, and frequently shift without notice. When you try to set things below the absolute maximum, it becomes difficult to work

what is or isn't private. Can friends see it? Can friends of friends see it? What I may have wanted to share as a 19-year-old student I may not want to have seen as a 24-year-old user. Without extreme, painstaking attention, it's very hard for long term users to clean their old potentially embarrassing posts; indeed, the [recent flap about private messages being shown online publicly](#) was all traceable to old but very private posts that older users couldn't believe they had shared openly five or six years ago.

3. The Government's attempts to computerise the chaotic Job Centre system have taken a turn today, with the announcement that in future it will use online cookies [to follow job seekers around the Internet](#), and make sure they are actually looking for jobs. The Job Centres will know how many searches you've done on the government jobs website, and if you've turned down any good opportunities. You can turn off the cookies, but that takes away low-skilled jobs, making it even harder for people to get out of being unemployed.
4. Vodafone subscribers were unable to send and receive emails or access the web on Friday morning following a technical fault. The outage lasted for part of the morning with Vodafone customers taking to Twitter to complain about the problem. A BlackBerry spokesman said that the problem was with Vodafone. "All BlackBerry services are operating normally but we are aware that a wider Vodafone service issue is impacting some of our BlackBerry customers in Europe, Middle East and Africa. We are supporting Vodafone's efforts to resolve the issue as soon as possible." Vodafone said the outage was caused by a router error and that services were being restored.
5. Apple could launch a cheaper version of the iPhone later this year, according to reports. A cheaper iPhone has been rumoured for years but, according to reports, [Apple](#) could launch the device later this year. The cheaper handset could be similar to the current model but with a cheaper, less expensive body, [the Wall Street Journal reports](#). Apple is considering an iPhone with a polycarbonate plastic case, which would be cheaper to make than the glass iPhone 4 and 4S or the aluminium iPhone 5. The paper says Apple might still decide not to launch the device but that a cheaper iPhone is needed to help the company compete with cheap smartphones running Google's Android operating system.
6. The world's biggest technology companies come to Las Vegas every year hoping the products they launch will become international hits. The Japanese giants that used to dominate the industry are now rarely jackpot winners at the international [Consumer Electronics Show](#). In an industry increasingly dominated by [Google](#), [Amazon](#), [Apple](#) and [Microsoft](#) – Sony, Sharp and Panasonic have all unveiled more misses than hits. As a consequence they are between them battling losses that will top £12bn this financial year alone. Sony hopes that its waterproof, and class-leading, mobile phone will help it turn the corner. Sharp, if it survives its admitted "material doubt" that it can service its debts, thinks big TV screens are the way forward.
7. In the land of the coffee maker, the pod is the king. Led by Nespresso and George Clooney, millions of pounds is being spent on machines that meld the convenience of quality coffee in pods with our unending love of coffee. Yet Starbucks, the chain that support that fascination, has not had a machine of its own. Until now. The Verismo 580 is a £149 machine, putting it squarely in the mid-range. Cheaper models are available, but the build quality needed to maintain the required pressure for decent coffee means this is the sort of price where good quality becomes an expectation. Indeed, with some of the excellent Nespresso machines from companies such as Magimix available for less, the Verismo ought to be fantastic. Sadly, it's not. On the plus side, it heats up water in just 15 seconds, and is quickly ready to use.

| | | | | | | | |
|-----------|---|---|---|---|---|---|---|
| Тексты | A | B | C | D | E | F | G |
| Заголовки | | | | | | | |

Peter the Great

Born in Moscow, Russia on June 9, 1672, Peter the Great was a Russian czar in the late 17th

Stop talking rubbish about 3D printing

Pick up any technology magazine, and you'll find sentimental articles about how the world is going to be completely transformed by 3D printing – everyone from [Wired](#) to the [Economist](#) has [speculated on changes to society that 3D printing will bring](#). The ability to turn objects into data – to copy physical things – has led many people to predict an attack of 3D piracy. It has been written a lot about the

criminal possibilities connected with the machines. Yesterday, the founder of Makerbot came out to say his product will “[fuel the next industrial revolution](#)”.

Having talked to a bunch of manufacturing engineers, I’m not so sure. All the enthusiasm for the “revolution” seems to come from journalist observers of the 3D printing scene, the companies offering the “revolutionary technology”, and a handful of Lefty academics thrilled by the idea of abolishing property. People actually involved in manufacturing are not so sure that it’s magic. Let’s take a British example.

There was a huge internet furore a few months back when Games Workshop, a British toy soldier manufacturer, felt it had been the [world’s first victim of digital piracy](#), and issued a takedown notice on a 3D printing pattern for a vehicle similar to one from its Warhammer 40,000 game. A huge wave of copying, a minefield of intellectual property issues, was predicted.

In actual fact, very little of that has happened.

Patterns for model soldiers exist on file-sharing sites like the Pirate Bay. However, the economics just don’t support pirating on that scale. Unlike, say, pirating music, where the act of listening is free, printing out models costs money. A box of model soldiers goes for about [£20 online](#), about [£25 in the shops](#) – but the plastic to print them out at home currently costs around £35, and the most common printer – the Makerbot – costs about £2,000. So an epidemic of piracy seems unlikely. Printing is also a fairly exacting process – it takes time, effort, and often you get a pile of goo at the bottom of your machine rather than the thing you wanted. Widespread physical copying won’t happen, in the same way that photocopiers didn’t lead to an epidemic of photocopying books.

The technology just isn’t there yet – even successful prints create models that look like they’ve been left on a radiator for a few hours. And if it’s not good enough for model soldiers, it’s certainly not good enough for things with complex moving parts. One engineer told me: “You have to appreciate how expensive and how specialised most factory tooling is. You can run a 3D Printer for six months and never make the same item twice.”

He thought it would be 10 to 15 years before printers able to create factory-quality products would appear, and those ones able to do in metal would probably never make it into the home. He did, however, confidently predict being able to print out parts for his BMW on the factory level ones in a few years’ time, but pointed out that those machines weren’t going to drop below a million pounds a piece any time soon, and that even if they did, the materials to make the parts at the right tolerance for a car were incredibly expensive to buy.

None of the current methods of home 3D printing – the thermal fusing of plastic filaments, using UV light to cut polymer resin, depositing glue to bind resin powder, cutting and laminating paper, or even using a laser beam to fuse metal particles – are even close to reaching the standards a machine would require. It’s all very well to upload weapon parts to the internet, but without the means to do metal you’ve printed yourself a cool accessory for your Halloween gangster costume – and if you’re stupid enough to press the trigger, it’s more likely to take your arm off than actually fire a bullet.

It strikes me that 3D printing is the microwave of manufacturing. If you look back at newspapers from the 1970s, people predicted that microwaves would be the only device in a kitchen, and that every dish would be microwaved. That never came to pass. Like microwaves, 3D printing will be important, but this isn’t the industrial revolution that techno-libertarians would have you believe.

A 7 It seems 3D printing has been spoken and argued a lot about in the press.

- 1) True 2) False 3) Not stated

A 8 According to the founder of Makerbot 3D printing will make copying physical things possible.

- 1) True 2) False 3) Not stated

A 9 The revolutionary technology of the 3D printing will take place in the 21st century.

- 1) True 2) False 3) Not stated

A 10 3D printing will definitely encourage pirating objects.

- 1) True 2) False 3) Not stated

A 11 The quality of 3D copied objects is rather doubtful.

- 1) True 2) False 3) Not stated

- A 12 It will take a quarter of a century to make 3D printing successful.
 1) True 2) False 3) Not stated
- A 13 3D printing is technologically so difficult that it will never come home.
 1) True 2) False 3) Not stated
- A 14 3D is comparable to microwaving in its history and development.
 1) True 2) False 3) Not stated

| | | |
|-----|--|-----------|
| B4 | PC sales were down 6.4 per cent in the _____ quarter of last year, to 89.8 million units – a worse performance than many expected and the worst final quarter for _____ than five years. | FOUR |
| B5 | The new Windows 8 operating system _____ to excite buyers, with many operating for tablet computers instead. | MUCH |
| B6 | There _____ a miserable year for PC makers such as Hewlett-Packard Co, Lenovo Group and Dell Inc, which saw the first annual decline for more than a decade with no immediate signs of relief. | FAIL |
| B7 | “The sense is that until Windows 8 _____ fully and prices start to come down, we will be in this state of negative dynamics in the PC market,” said Aaron Rakers, an analyst at Stifel, Nicolaus & Co. | BE |
| B8 | Still, analysts warn against _____ out Windows 8 – the most radical change in the operating system in 20 years - as consumers grow more comfortable with _____ tile-based interface and touch features. In the past, a new operating system from Microsoft tended _____ a spurt of PC sales, but PC makers simply did not get enough attractive machines into the market, said IDC. | INSTALL |
| B9 | “Lost in the shuffle to promote a touch-centric PC, vendors have not forcefully stressed other features that promote a _____, reliable and efficient user experience,” said Jay Chou, senior research analyst at IDC. | COUNT |
| B10 | | IT |
| B11 | | STIMULATE |

| | | |
|-----|--|--------|
| B12 | | SECURE |
| B13 | <p>Amazon offers free MP3s to CD buyers</p> <p>Amazon has launched a new AutoRip service offering free MP3s of CDs _____ have bought, going back to 1998.</p> <p>Whenever a customer buys a new CD that is included in the service, they will also get the digital version. The feature applies to any _____ CDs bought from Amazon since 1998.</p> | CUSTOM |
| B14 | <p>More than 50,000 albums from EMI, Sony, Warner and "hundreds" of independent labels are included in the service.</p> <p>The AutoRip service is US-only at the moment but Amazon says it plans to bring it to other countries, including the UK, before _____ the _____ end _____ of _____ 2013.</p> | CHOOSE |
| B15 | <p>Last year Amazon brought its Cloud Player service to the UK. The service provides free cloud _____ for any MP3s bought from Amazon and up to 250 tracks imported from elsewhere. For £21.99 a year, users can upgrade to _____ up to 250,000 _____ songs.</p> <p>_____ rivals Google and Apple offer similar music storage services but, as neither company has ever sold music in a physical format, they can't offer an equivalent of AutoRip. AutoRip will be switched on _____ for Amazon's US customers. Those who have bought CDs from Amazon but</p> | STORE |

| | | |
|-----|--|-----------|
| B16 | never used its Cloud Player software will be sent an email telling them their purchases are available as MP3s. | PORT |
| B17 | | AMAZON |
| B18 | | AUTOMATIC |

Эталон ответов

Задание B3

4 – extra

| | | | | | | | |
|-----------|---|---|---|---|---|---|---|
| Тексты | A | B | C | D | E | F | G |
| Заголовки | 3 | 7 | 6 | 8 | 5 | 1 | 2 |

Задание A7–A14

A7 – 1; A8 – 1; A9 – 3; A10 – 2; A11 – 1; A12 – 1; A13 – 1; A14 – 1.

Задание B4–B12

B4 – fourth; B5 – more; B6 – had failed; B7 – was; B8 – is fully installed; B9 – counting; B10 – its; B11 – to stimulate; B12 – more secure.

Задания B13–B18

B13 – customers; B14 – chosen; B15 – storage; B16 – import; B17 – Amazon’s; B18 – automatically.

Критерии оценивания:

40-37 правильных ответов – оценка “5”

36-33 правильных ответов – оценка “4”

32-28 правильных ответов – оценка “3”

менее 28 – оценка “2”

ЗАДАНИЕ 5

Практические занятия ПРАКТИЧЕСКОЕ ЗАНЯТИЕ №1

Тема: Введение новых лексических единиц по теме занятия. Фразы, речевые обороты и выражения. Фонетическая отработка и выполнение тренировочных лексических и лексико-грамматических упражнений на закрепление активной лексики и фразеологических оборотов.

Ведущая дидактическая цель: формирование у обучающихся навыка монологической и диалогической речи.

Формируемые ОК/умения: ОК 01. Выбирать способы решения задач профессиональной деятельности применительно к различным контекстам; ОК 02. Использовать современные средства поиска, анализа и интерпретации информации и информационные технологии для выполнения задач профессиональной деятельности; ОК 04. Эффективно взаимодействовать и работать в коллективе и команде; ОК 09. Пользоваться профессиональной документацией на государственном и иностранном языках.

Учебные материалы: учебник, бланки с заданиями, презентация

Характер выполнения работы: Словесный, наглядный, продуктивный

Форма организации занятия: индивидуальная, в малых группах

Задания для практического занятия:

1 Greetings

Приветствие

| | |
|------------------------------------|--|
| How do you do? | <i>Здравствуйте (при знакомстве, первой встрече)</i> |
| Hello! | <i>Здравствуйте, привет.</i> |
| Hi! | <i>Привет!</i> |
| Good morning (afternoon, evening). | <i>Доброе утро (добрый день, вечер).</i> |
| How are you? | <i>Как поживаете, как дела?</i> |
| How are thing with you? | <i>Как поживаете, как дела?</i> |
| Fine, thanks/ | <i>Спасибо, прекрасно.</i> |
| Everything is Ok, thank you/ | <i>Спасибо, все хорошо.</i> |
| So-So | <i>Неважно. Так себе.</i> |

1 Read the dialogue. *Прочитай диалог:* - Hello? Ann!

- Hi? Olga! How are things with you?
- Fine? Thanks. And how are you?
- Everything is OK, thanks.

2 *Восстановите каждую реплику второго участника диалога на слова второго участника диалога.*

- Hello? Ann!
- *Привет, Ольга! Как дела?*
- Fine? Thanks. And how are you?
- *Спасибо, все хорошо.*

2 Introduction

Знакомство

| | |
|--------------------------------|--|
| Let me introduce Mr A. to you. | <i>Позвольте представить вам господина А.</i> |
| I'D like you to meet Mr A. | <i>Мне хотелось бы познакомить вас с господином А.</i> |
| Bill, meet my friend A | <i>Билл, познакомься с моим другом А.</i> |
| Nice (I'm) please to meet you | <i>Приятно (рад) познакомиться с вами</i> |

1 Read the dialogue. *Прочитай диалог:*

- Mrs Reed? I'd like you to meet my brother Steve?
- How do you do, Mrs Reed?

-How do you do? Nice to meet you too. Please, take a seat. - Thank you.
I'mpleasetomeetyoutoo.

2 . *Восстановите каждую реплику второго участника диалога на слова второго участника диалога.*

- Mrs. Reed? I'd like you to meet my brother Steve?
Здравствуйте, госпожа Рид.
- How do you do? Nice to meet you too. Please, take a seat.
- Благодарю. Я рад знакомству с вами тоже.

3 Getting acquainted

Знакомство

| | |
|---------------------------|-----------------------|
| What's your name, please? | <i>Как вас зовут?</i> |
|---------------------------|-----------------------|

| | |
|--|--|
| What do you do? | <i>Чем вы занимаетесь?</i> |
| What's your occupation (job)? | <i>Кем вы работаете?</i> |
| Are you a student (teacher, doctor)? | <i>Вы студент (учитель, врач)?</i> |
| How old are you? | <i>Сколько вам лет?</i> |
| Where are you from? | <i>Откуда вы?</i> |
| I'm (my name is)... | <i>Меня зовут</i> |
| I'm a student (doctor, teacher). | <i>Я студент(ка), (врач, учитель)</i> |
| I'm twenty-tree (years old). | <i>Мне 23 года</i> |
| I'm from Great Brian (the USA, Canada, Finland). | <i>Я из Великобритании (США, Канады, Финляндии).</i> |
| I'm on business (on vacation) here | <i>Я здесь по делам (на каникулах).</i> |
| Excuse me. Pardon (me). | <i>Извините. Простите.</i> |

1 Read the dialogue. *Прочитайте диалог:*

- Hello!
- Hello! I'm David Clark.
- I'm Susan Worth. Are you from the USA?
- No, I'm not. I'm from Canada.
- And I'm from the USA.

2 Восстановите каждую реплику второго участника диалога на слова второго участника диалога

Hello!

- *Здравствуйте, меня зовут Давид Кларк.* - I'm Susan Worth. Are you from the USA?
- *Нет, я из Канады.*
- *And I'm from the USA.*

Saying good bye

Прощание

| | |
|---------------|---------------------------|
| Goodbye | <i>До свидания.</i> |
| Bye-bye | <i>До свидания.</i> |
| See you later | <i>До скорой встречи.</i> |
| See you soon | <i>До скорой встречи.</i> |
| Good luck | <i>Счастливо.</i> |

1 Read the dialogue. *Прочитайте диалог:*

- I'm sorry, I should be off now.
- Oh, so soon? What a pity!
- Good-bye, thanks for a wonderful party.
- Bye, thanks for coming.

Восстановите каждую реплику второго участника диалога на слова второго участника диалога.

- *К сожалению, я должен уходить сейчас.* - Oh, so soon? What a pity!
- *До свидания, спасибо за чудесный вечер.* - Bye, thanks for coming.

4. Dramatize the dialogues. Отреагируйтенаследующее:

1. Hello! How do you do? 2. Hi! How's life? 3. Bye? See you later. 4. Nice to see you.

ПРАКТИЧЕСКОЕ ЗАНЯТИЕ №2

Тема: Диалог-дискуссия по теме «Иностранный язык как средство международного общения в современном мире».

Ведущая дидактическая цель: формирование у обучающихся навыков диалогической речи

Формируемые ОК/умения: ОК 01. Выбирать способы решения задач профессиональной деятельности применительно к различным контекстам; ОК 02. Использовать современные средства поиска, анализа и интерпретации информации и информационные технологии для выполнения задач профессиональной деятельности; ОК 04. Эффективно взаимодействовать и работать в коллективе и команде; ОК 09. Пользоваться профессиональной документацией на государственном и иностранном языках.

Учебные материалы: учебник, бланки с заданиями, презентация

Характер выполнения работы: Словесный, наглядный, продуктивный

Форма организации занятия: индивидуальная, в малых группах

Задания для практического занятия:

English is the native language for more than 300 million people on our earth. But nowadays it is widely used not only in those countries where it is a first language. A lot of countries (such as China, Russia, Thailand and many others) have recognized the importance of this language recently as an international means of communication. English is taught in all schools and colleges there. In Russia itself English is gathering pace as a popular second language.

There are also some countries (such as India, Singapore, Pakistan, the Philippines and some African countries) where English is an official second language and it is often used in mass media, courts, parliaments and universities.

Today English is used almost everywhere. It is the language of banking and industry, computers and trade, technology and science. English as an international language helps people of different nationalities from around the world discuss politics or arrange business meetings. For example, German and Italian businessmen can choose English as their mutual language of communication.

More and more people from non-English speaking countries start learning the language and using it in their daily life, business and travelling. Tourism development has contributed much to English becoming the universal means of communication. However some linguists hold the opinion that the globalization of English as an international language can be quite harmful for the language itself because foreign speakers greatly influence its grammar, pronunciation and vocabulary.

Задание 1. Отработайте чтение следующих слов, запишите их транскрипцию:

competition, communication, knowledge, learning, listening, speaking, reading, writing, format, develop, universe, household, background, in-law.

Задание 2. Напишите следующие слова транскрипционными знаками:

childcare, extended family, caring, sharing, respect, security, comfort, privacy, trust, family, values, requirement, product, manageable, surface, flexibility, damage, contain, mixing, efficiently, appearance.

Задание 3. Прочитайте текст и ответьте на вопросы.

«English Language is a World Language»

1. English has a World language - Английский, как язык международного общения

Nowadays English has become the world's most important and most universal language. It is the official language in over forty countries and the most used language in international business, science, medicine, trade and cultural relations. Over 300 million people speak it as a mother tongue (1). The native speakers of English live in Great Britain, the USA, Australia and New Zealand. English is one of the official languages in the Irish Republic, Canada, the South Africa Republic.

It is one of the official languages of the United Nations Organisation and other political

organisations. It is the language of world's scientific literature and computers technology.

England's history helps to understand the present condition of English. Many English words were borrowed (2) from the language of Angles and Saxons. Hundreds of French words came into English. Many new words were brought by traders and travellers.

To know the English language today is absolutely necessary for every educated person, for every good specialist. English is everywhere in our life. It is in signs, clothing, soft drinks (3), and household products (4) around the world. The names of pop groups, computers software (5), and magazines are often written in English.

English words are also used as elements of magic to be included on T-shirts (6), sweaters (7), caps etc. Some think English is chic (8), stylish (9), even when the language on these designed items (10) makes no sense (11).

That is why in order to understand ourselves and the world around us we have to study foreign languages and English in particular (12).

Vocabulary

1. mother tongue [tʌŋ] - родной язык
2. to be borrowed - быть заимствованными (слова)
3. soft drinks - безалкогольные напитки
4. products - предметы домашнего обихода
5. software ['sɒftweə] - программное обеспечение
6. T-shirt - футболка
7. sweater ['swetə] - свитер
8. chic [ʃi:k] - шикарно
9. stylish ['stɑɪlɪʃ] - современно, стильно
10. designed items - надписи на изделиях
11. to make no sense - не иметь смысла
12. in particular - особенно

Questions

1. Has become the English world's most important language? Why?
2. How many people speak it as a mother tongue?
3. In what countries do people use English as native language?
4. Can you name any English words that have entered the Russian language?
5. What is English to you?

2. English as a World Language

1). Today English is the language of the world. 2). It is only in the course of the last hundred years that English has become a world language. 3). In Shakespeare's time it was a «provincial» language of secondary importance with only 6 million native speakers. 4). Nowadays over 300 million people speak it as a mother tongue.

5). English is the official language of the United Kingdom of Great Britain and Northern Ireland, of the United States of America, of Australia and New Zealand. 6). It is used as one of the official languages in Canada, the Republic of South Africa and the Irish Republic.

7). English is also spoken as a second language in the former British and US colonies. 8). In a number of speakers (400 million) it is second only to Chinese.

9). English is the major international language of communication in such areas as science, technology and business. 10). It is the language of literature, education, modern music, and international tourism. 11). English is the major language of diplomacy, it is one of the official languages of the United Nations organization and other political organizations.

12). Russia is integrating into the world community and the problem of learning English for the purpose of communication is especially urgent today.

13). One should say that English is not an easy language to learn. 14). There is a big problem of spelling, of the large number of exceptions to any rule. 15). This language is very idiomatic and the prepositions are terrible. 16). English is one of those languages which may seem easy in the beginning, but then the bridge between basic knowledge and mastery takes a long time to cross. 17). But if you cross this bridge it will give you great satisfaction. 18). You will be able to speak to people from other countries, to read foreign authors in the original, which makes your outlook wider. 19). To know English today is absolutely necessary for every educated man, for every good specialist.

ПРАКТИЧЕСКОЕ ЗАНЯТИЕ №3

Тема: Компьютерная грамотность. Что такое компьютер?

Ведущая дидактическая цель: формирование у обучающихся навыка чтения и перевода английских текстов

Формируемые ОК/умения: ОК 01. Выбирать способы решения задач профессиональной деятельности применительно к различным контекстам; ОК 02. Использовать современные средства поиска, анализа и интерпретации информации и информационные технологии для выполнения задач профессиональной деятельности; ОК 04. Эффективно взаимодействовать и работать в коллективе и команде; ОК 09. Пользоваться профессиональной документацией на государственном и иностранном языках.

Учебные материалы: учебник, бланки с заданиями, презентация

Характер выполнения работы: Словесный, наглядный, продуктивный

Форма организации занятия: индивидуальная, в малых группах

Задания для практического занятия:

I. Look up in the dictionary how to pronounce the following words. Write them down in the dictionary.

| | | |
|---------------|----------------|-----------------|
| to intricate | capabilities | a microcomputer |
| tiny | addition | a circuit |
| a core | subtraction | unfortunately |
| to manipulate | division | dull |
| to magnetize | multiplication | a routine |
| to perform | exponentiation | a judgement |
| to supply | to feed | instantaneously |

II. Read the text and translate it without the help of the dictionary.

What is a Computer?

A computer is a machine with an intricate network of electronic circuits that operate switches or magnetize tiny metal cores. The switches, like the cores, are capable of being in one of two possible states, that is, on or off; magnetized.

The machine is capable of storing and manipulating numbers, letters and characters.

The basic idea of a computer is that we can make the machine do what we want by inputting signals that turn certain switches on and turn others off, or that magnetize or do not magnetize the cores.

The basic job of computers is the processing of information. For this reason, computers can be defined as devices which accept information in the form of instructions called a program and characters called data performing mathematical and logical operations on the information, and then supply results of these operations.

The program or a part of it, which tells the computers what to do and the data, which provide the information needed to solve the problem, are kept inside the computer in a place called memory.

Computers are thought to have many remarkable powers. Most computers, whether large or small have three basic capabilities.

First, computers have circuits for performing arithmetical operations, such as: addition, subtraction, division, multiplication and exponentiation. Second, computers have means of

communicating with the user. If we couldn't feed information in and get results back these machine wouldn't be of much use.

However, certain computers (commonly minicomputers and microcomputers) are used to control directly things such as robots, aircraft navigation systems, medical instruments, etc. Some of the most common methods of inputting information are to use terminals, diskettes, disks and magnetic tapes.

The computer's input device (which might be a disk drive depending on the medium used in inputting information) reads the information into the computer. For outputting information, two common devices are used a printer which prints the new information on paper, or a cathode-raytube (CRT) display screen which shows the results on a TV-like a screen. Third, computers have circuits which can make decisions. The kinds of decisions which computer circuits can make are not of the type: 'Who would win a war between two countries?' or 'Who is the richest person in the world?' Unfortunately, the computer can only decide three things, namely: 'Is one number use more often than another?' 'Are two numbers equal?' and, 'Is one number greater than another?'

A computer can solve a series of problems and make hundreds even thousands of logical operations without becoming tired or bored. It can find the solution to a problem in a fraction that it takes a human being to do the job. A computer can replace people in dull routine, but it has no originality, it works according to the instructions given to it and cannot exercise value judgements.

There are times when a computer seems to operate like a mechanical «brain», but its achievement are limited by the minds of human beings. A computer cannot do anything unless a person tells it what to do and gives the appropriate information, but because of electric pulses can move at the speed of light, a computer can carry out vast numbers of arithmetical-logical operations almost instantaneously.

A person can do the same, but in many cases that person would be deal long before the job was finished.

III. Translate these into your own language:

- | | |
|----------------------------------|--------------------------------|
| 1. an intricate network | 9. an input device |
| 2. tiny metal cores | 10. for outputting information |
| 3. by inputting signals | 11. a decision |
| 4. the processing of information | 12. to replace |
| 5. to define | 13. appropriate |
| 6. to provide | 14. to carry out |
| 7. to solve | 15. vast |
| 8. memory | |

IV. Translate these into English:

- | | |
|---|------------------------------|
| 1. переключатель, подобный металлическому сердечнику | 9. непосредственно управлять |
| 2. буквы и знаки (символы) | 10. схема |
| 3. намагничивать металлический сердечник | 11. механический мозг |
| 4. обработка информации | 12. ограниченный |
| 5. выполнять металлические и логические операции | 13. до тех пор пока |
| 6. данные | 14. подходящий |
| 7. замечательный | 15. скорость света |
| 8. средства связи с пользователем | |

V. Fill in the necessary words:

1. A computer is a with an intricate network of electronic circuits.
2. The machine is of storing and manipulating numbers, letters and characters.
3. The basic job of a computer is the of information.
4. Most computers have three basic

5. Computers have for performing arithmetical operations.
6. Certain computers are used directly things such as robots, medical instruments, etc.
7. For outputting information two common are used.
8. A computer can people in dull routine.

VI. Fill in the gaps the prepositions:

1. A computer is a device an intricate network.
2. The switches are capable of being one or two states.
3. We can make the machine do what we want inputting signals.
4. Computers accept information the form of instructions called a program.
5. Computers have circuits performing operations.
6. Computers have means of communicating the user.
7. Input device may be a disk drive depending the medium used inputting information.
8. Computers can solve a series of problems becoming tired or bored.

VII. Match the names on the left with the definitions on the right:

- | | |
|-------------------|--|
| 1. video recorder | a) a kind of sophisticated typewriter using a computer |
| 2. photocopier | b) a machine which records and plays back sound |
| 3. fax machine | c) a machine which records and plays back pictures |
| 4. tape recorder | d) a camera which records moving pictures and sound |
| 5. modem | e) a machine for chopping up, slicing, mashing, etc. |
| 6. camcorder | f) a machine which makes copies of documents |
| 7. robot | g) a machine which makes copies of documents and sends them down telephone lines to another place |
| 8. word-processor | h) a machine which acts like a person |

a piece of equipment allowing you to send information from one computer down telephone lines to another computer

VIII. Write descriptions like those in exercise VII, for the following objects:

- | | | | |
|-------------|----------------|-----------|------------|
| TV set | sewing-machine | microwave | disks |
| iron | telephone | printer | mouse |
| alarm-clock | ventilator | keyboard | CD-players |

IX. Give the appropriate definitions of the following terms:

computer, data, memory, input, device, output

X. Find the synonyms to the following words in the text:

Work, difficult, to fulfill, fundamental, to end, equipment
complex, way, uninterested, an accomplishment

XI. Find the antonyms to the following words in the text:

output, smaller, interesting, poor, dark, alive, large, receiving, reject, unusual

XII. Arrange the items of the plan in a logical order according to the text:

1. A computer can solve a series of problems and make hundreds even thousands of logical operations.
2. The basic job of computers is the processing of information.
3. A computer is a machine with an intricate network of electronic circuits.
4. Computers have circuits for performing arithmetic operations.
5. The machine is capable of storing and manipulating numbers, letters and characters.
6. Some of the most common methods of inputting information are to use terminals.
7. For outputting information only two common devices are used.

XIII. Answer the following questions:

1. What is a computer?
2. What is it capable to do?
3. The basic job of a computer is the processing of information, isn't it?
4. How do we call a program, which tells the computer what to do?
5. Computers have many remarkable powers, don't they?
6. What can computer solve?
7. Can computers do anything without a person?

XIV. Give a short summary of the text.

ПРАКТИЧЕСКОЕ ЗАНЯТИЕ №4

Тема: История создания компьютеров. Первые компьютеры.

Ведущая дидактическая цель: формирование у обучающихся навыков монологической и диалогической речи.

Формируемые ОК/умения: ОК 01. Выбирать способы решения задач профессиональной деятельности применительно к различным контекстам; ОК 02. Использовать современные средства поиска, анализа и интерпретации информации и информационные технологии для выполнения задач профессиональной деятельности; ОК 04. Эффективно взаимодействовать и работать в коллективе и команде; ОК 09. Пользоваться профессиональной документацией на государственном и иностранном языках.

Учебные материалы: учебник, бланки с заданиями, презентация

Характер выполнения работы: Словесный, наглядный, продуктивный

Форма организации занятия: индивидуальная, в малых группах

Задания для практического занятия:

I. Look up in the dictionary how to pronounce the following words. Write them down in the dictionary.

| | | |
|--------------|-------------------------|----------------|
| to calculate | ten-toothed gear wheels | a chip |
| an abacus | to aim guns | rectangular |
| a bead frame | responsible | a layer |
| to devise | to figure out | attached |
| a slide rule | a generation | to encapsulate |
| to reduce | a predecessor | dependable |

II. Read the text and do the exercises that follow it.

History of Computers

Let us take a look at the history of the computers that we know today. The very first calculating device used was the ten fingers of a man's hands. This, in fact, is why today we count in tens and multiply of tens. Then the abacus was invented, a bead frame in which the beads are moved from left to right. People went on using some form of abacus well into the 16th century, it is being used in some parts of the world because it can be understood without knowing how to read.

During the 17th and 18th centuries many people tried to find easy ways of calculating. J. Napier, a Scotsman, devised a mechanical way of multiplying and dividing, which is how the modern slide rule works. Henry Briggs used Napier's ideas to produce logarithm which all mathematicians used today.

Calculus, another branch of mathematics, was independently invented by both Sir Isaac Newton, an Englishman, and Leibnitz, a German mathematician. The first real calculating machine appeared in 1820 as the result of several people's experiments. This type of machine, which saves a great deal of time and reduces the possibility of making mistakes, depends on a ten-toothed gear wheels.

In 1830 Charles Babbage, an Englishman, designed a machine that was called 'The Analytical Engine'. This machine, which Babbage showed at the Paris Exhibition in 1855, was an attempt to cut out the human being altogether, expert for providing the machine with the necessary facts the problem to be solved. He never finished this work, but many of his ideas were the basis for building today's computers.

In 1930, the first analog computer was built by American named Vannevar Bush. The device was used in World War II to help aim guns. Mark I, the name given to the first digital computer, was completed in 1944. The men responsible for this invention were Professor Howard Aiken and some people from IBM. This was the first machine that could figure out long of mathematical problems all at a very fast speed.

In 1946 two engineers at the University of Pennsylvania, J. Eckert and J. Mayshly, built the first digital computer using parts called vacuum tubes. They named their new invention UNIAС. The first generation of computers, which used vacuum tubes, came out in 1950. UNIAС I was an example of these computers which could perform thousand of calculations per second.

In 1960, the second generation of computers was developed and could perform work ten times faster than their predecessors. The reason for this extra speed was the use of transistors instead of vacuum tubes. Second generation computers were smaller, faster and more dependable than first generation computers.

The third-generation computers appeared on the market in 1965. These computers could do a million calculations a second, which is 1000 times faster than the first generation computers. Unlike second-generation computers, these are controlled by tiny integrated circuits and are consequently smaller and more dependable.

Fourth-generation computers have now arrived, and the integrated circuits that are being developed have been greatly reduced in size. This is due to microminuturization, which means that the circuits are much smaller than before; as many as 1000 tiny circuits now fit onto a single chip. A chip is a square or rectangular piece of silicon, usually from 1/10 to ¼ inch, upon which several layers of an integrated circuit are attached or imprinted, after which the circuit is encapsulated in plastic metal. Fourth generation computers are 50 times faster than third-generation computers and can complete approximately 1.000.000 instructions per second.

III. Translate from English into Russian:

- | | |
|--------------------------------------|------------------------------|
| 1. the very first calculating device | 7. first digital computer |
| 2. to count in tens | 8. to figure out |
| 3. to multiply of tens | 9. ten times faster |
| 4. without knowing | 10. extra speed |
| 5. to be independently invented | 11. tiny integrated circuits |
| 6. to save a great deal of time | 12. keeping instruction |

IV. Translate from Russian into English:

- | | |
|---|------------------------------|
| 1. знать сегодня | 7. попытка |
| 2. 10 пальцев руки человека | 8. аналоговый компьютер |
| 3. кости на счетах двигают слева на право | 9. скорость |
| 4. продолжать использовать | 10. вакуумные лампы (трубки) |
| 5. счеты | 11. транзистор |
| 6. настоящая счетно- вычислительная машина | 12. интегрированные схемы |

V. Fill in each blank with a word chosen from the list below to complete the meaning of the sentence:

chip, speed, figure out, calculating, reduces, microminuturization,
analog, logarithm, abacus, machine, vacuum tubes,
tiny, dependable, devised

- The very first device used was 10 fingers of a man's hand.
- Then, the was invented.
- J. Napier a mechanical way of multiplying and dividing.
- Henry Briggs used J.Napier's ideas to produce
- The first real calculating appeared in 1820.
- This type of machine the possibility of making mistakes.
- In 1930 the first computer was built.

8. This was the first machine that could mathematical problems at a very fast speed.
9. In 1946 was built the first digital computer using parts called
10. The reason for this extra was the use of transistors instead of vacuum tubes.
11. The second generation computers were smaller, faster and more than first-generation computers.
12. The third-generation computers are controlled by integrated circuits.
13. This is due to, which means that the circuits are much smaller than before.
14. A is a square or rectangular piece of silicon, usually from 1/10 to 1/4 inch.

VI. Fill in the preposition:

1. Let us take a look the history of computers.
2. That is why we count tens and multiply tens.
3. The beads are moved left right.
4. Abacus is still being used some parts the world.
5. Calculus was independently invented both Sir Isaac Newton and Leibnitz.
6. This type of machine depends a ten-toothed gear wheels.
7. «The Analytical Engine» was shown the Paris Exhibition 1855.
8. The men responsible this invention were Professor Howard Aiken and some people IBM.
9. The first generation of computers came in 1950.
10. Due to microminuturization 1000 tiny circuits fit a single chip.

VII. Finish the following sentences:

1. The first generation of computers came out in
2. The second generation of computers could perform work ten times faster than their
3. The third-generation computers appeared on the market in
4. The fourth-generation computers have been greatly
5. The fourth-generation computers are 50 times faster and can

VIII. Find the synonyms to the following words in the text:

simple, to carry out, up to date, quick, to try, small

IX. Find the antonyms to the following words in the text:

Like, short, to increase, sole, dependently

X. Arrange the items of the plan in a logical order according to the text:

1. J. Napier devised a mechanical way of multiplying and dividing.
2. The very first calculating device was the ten fingers of a man's hands.
3. Babbage showed his analytical engine at Paris Exhibition.
4. The first real calculating machine appeared in 1820.
5. The first analog computer was used in World War II.

XI. Answer the questions on the text:

1. What was the very first calculating device?
2. What is abacus? When did people begin to use them?
3. When did a lot of people try to find easy ways of calculating?
4. Who used Napier's ideas to produce logarithm?
5. What was invented by Sir Isaac Newton and Leibnitz?
6. What did Charles Babbage design?
7. When was the first analog computer built? How did people use it?
8. Who built the first digital computer?
9. How did the first generation of computers work?
10. What are the differences between the first and the second computer generations?
11. When did the third-generation computers appear?

ПРАКТИЧЕСКОЕ ЗАНЯТИЕ №5

Тема: Первые модели компьютеров. Четыре поколения компьютеров

Ведущая дидактическая цель: формирование у обучающихся навыков чтения и перевода английских текстов.

Формируемые ОК/умения: ОК 01. Выбирать способы решения задач профессиональной деятельности применительно к различным контекстам; ОК 02. Использовать современные средства поиска, анализа и интерпретации информации и информационные технологии для выполнения задач профессиональной деятельности; ОК 04. Эффективно взаимодействовать и работать в коллективе и команде; ОК 09. Пользоваться профессиональной документацией на государственном и иностранном языках.

Учебные материалы: учебник, бланки с заданиями, презентация

Характер выполнения работы: Словесный, наглядный, продуктивный

Форма организации занятия: индивидуальная, в малых группах

Задания для практического занятия:

1. Introduction

Warming Up

Theme and aims of the lesson.

2. Main part

Pre-reading task.

1. Match the words and word-combinations from the columns.

| | |
|------------------------|----------------------------------|
| 1. versatility | интегральная микросхема (чип) |
| 2. capacitor | выполнять, осуществлять |
| 3. binary circuit | последовательность |
| 4. computation | счеты |
| 5. dump | многогранность, многосторонность |
| 6. accuracy | конденсатор |
| 7. abacus | точность, правильность |
| 8. carry out | бинарная (двоичная) цепь |
| 9. succession | вычисление, расчет |
| 10. integrated circuit | дамп, разгрузка |

2. Translate the given sentences.

1. The first use of the word "computer" was recorded in 1613, referring to a person who carried out calculations.
2. Examples of early mechanical calculating devices included abacuses, slide-rules and the Antikythera mechanism.
3. Many scientific computing needs were met by increasingly sophisticated analog computers, which used a direct mechanical or electrical model of the problem as a basis for computation.
4. Stibitz invented and built a relay-based calculator. He dubbed the "Model K" which was the first to use binary circuits to perform an arithmetic operation.
5. Computers using vacuum tubes as their electronic elements were in use throughout the 1950s.
6. In 1801, Joseph Marie Jacquard made an improvement in the textile loom by introducing a series of punched paper cards which allowed his loom to weave intricate patterns automatically.
7. Jacquard's loom was an important step in the development of computers because the use of punched cards to define woven patterns can be viewed as an early, limited form of programmability.
8. These computers were not programmable and generally lacked the versatility and accuracy of modern digital computers.

Reading

The history of personal computers

*Read the text and find the paragraphs, informing about ...
the first mention of the word "computer" and its meaning;
the first inventions based on the principles of mechanics (the invention of Geron);
the stages of development of a modern computer.*

The first use of the word "computer" was recorded in 1613, referring to a person who carried out calculations, or computations, and the word continued to be used in that sense until the middle of the 20th century. From the end of the 19th century the word began to take on its more familiar meaning, describing a machine that carries out computations.

The history of a modern computer began with two separate technologies—automated calculation and programmability — but no single device can be identified as the earliest computer, partly because of the inconsistent application of that term. Examples of early mechanical calculating devices include the abacus, the slide rule and the Antikythera mechanism (which dates from about 150—100 B.C.). Hero of Alexandria (he lived about 150 B.C.) built a mechanical theater which performed a play lasting 10 minutes and was operated by a complex system of ropes and drums that might be considered to be as means of deciding which parts of the mechanism performed the actions and the time. This is the essence of programmability.

The "castle clock", an astronomical clock invented by Al-Jazari in 1206, is considered to be the earliest programmable analog computer. It displayed the zodiac, the solar and lunar orbits, a moon-shaped pointer travelling across a gateway causing automatic doors to open every hour, and five robotic musicians who played music when struck by levers operated by a camshaft attached to the water wheel. The length of days and nights could be re-programmed to compensate for the changing lengths of days and nights throughout the year.

In 1801, Joseph Marie Jacquard made an improvement in the textile loom by introducing a series of punched paper cards which allowed his loom to weave intricate patterns automatically. As the result, Jacquard's loom was an important step in the development of computers because the use of punched cards to define woven patterns can be viewed as an early form of programmability.

It was the fusion of automatic calculation with programmability that produced the first recognizable computers. In 1837, Charles Babbage was the first to conceptualize and design a fully programmable mechanical computer, his analytical engine.

In the late 1880s Herman Hollerith invented the recording of data on a machine readable medium. Prior uses of the machine readable media had been used for control, but not for data. After some initial trials with paper tape, he settled on punched cards. To process these punched cards he invented a tabulator, and key punch machines. These three inventions were the foundation of the modern information processing industry.

During the first half of the 20th century, many scientific computing needs were met by increasingly sophisticated analog computers, which used a direct mechanical or electrical model of the problem as the basis for computation. However, these computers were not programmable and generally lacked the versatility and accuracy of modern digital computers.

George Stibitz is internationally recognized as the father of the modern digital computer. While working at Bell Labs in November of 1937, Stibitz invented and built a relay-based calculator. He dubbed the "Model K" (for "kitchen table", on which he had assembled it), which was the first to use binary circuits to perform an arithmetic operation. Later models added greater sophistications including complex arithmetic and programmability.

A succession of more powerful and flexible computing devices were constructed in the 1930s and 1940s, gradually adding the key features that are seen in modern computers. The use of digital electronics (largely invented by Claude Shannon in 1937) and more flexible programmability were vitally important steps, but defining one point along this road as "the first digital electronic computer" is difficult (Shannon 1940). Notable achievements include:

- Konrad Zuse's electromechanical "Z machines". The Z3 (1941) was the first working machine featuring binary arithmetic, including floating point arithmetic and a measure of programmability.
- The non-programmable Atanasoff-Berry Computer (1941) which used vacuum tubes based on the computation, binary numbers, and regenerative capacitor memory.

- The secret British Colossus computers (1943) which had limited programmability but demonstrated that the device using thousands of tubes could be reasonably reliable and electronically reprogrammable. It was used for breaking German wartime codes.
- Harvard Mark I (1944), a large-scale electromechanical computer with limited programmability.
- The US Army's Ballistics Research Laboratory ENIAC (1946), which used decimal arithmetic and is sometimes called the first general purpose electronic computer (since Konrad Zuse's Z3 of 1941 used electromagnets instead of electronics).

A number of projects to develop computers based on the stored-program architecture commenced around this time, the first of these being completed in Great Britain. The first to be demonstrated was SSEM or Manchester Small-Scale Experimental Machine (or "Baby"), while EDSAC, completed a year after SSEM, was the first practical implementation of the stored program design.

Computers using vacuum tubes as their electronic elements were in use throughout the 1950s, but by the 1960s they had been largely replaced by transistor-based machines, which were smaller, faster, cheaper to produce, required less power, and were more reliable. The first transistorized computer was demonstrated at the University of Manchester in 1953. In the 1970s, integrated circuit technology and the subsequent creation of microprocessors, such as Intel 4004, further decreased size and cost and further increased speed and reliability of computers. By the 1980s, computers became sufficiently small and cheap to replace simple mechanical controls in domestic appliances such as washing machines. The 1980s also witnessed home computers and ubiquitous personal computers. With the evolution of the Internet, personal computers are becoming as common as telephones or television in the household.

Modern smartphones are fully-programmable computers in their own right, and as of 2009, may well be the most common form of such computers in existence.

On June, 2008, the number of personal computers in use worldwide hit one billion, while another billion is expected to be reached by 2014. Mature markets like the United States, Western Europe and Japan accounted for 58 percent of the worldwide installed PCs. The emerging markets are expected to double their installed PCs by 2013 and to take 70 percent of the second billion PCs.

2. Post-reading task.

Vocabulary Practice

Text Study

1. Answer the questions.

1. When was the word "computer" used for the first time? What did it mean?
2. The history of modern computers began with two separate technologies. What are they?
3. What were the first mechanical calculating devices?
4. A succession of more powerful and flexible computing devices were constructed in the 1930s and 1940s. Name them.
5. When and where was the first transistorised computer demonstrated?

2. Complete the sentences, using the text. Translate into Russian. Retell briefly.

1. The first use of the word "computer" was recorded in 1613, referring to
2. The history of modern computers began with
3. Examples of early mechanical calculating devices include
4. In 1801, Joseph Marie Jacquard made an improvement in the textile loom by
5. In 1837, Charles Babbage was the first to conceptualize and design a....
6. During the first half of the 20th century, many scientific computing needs were met by
7. George Stibitz is internationally recognized as the father of... .
8. A succession of more powerful and flexible computing devices were constructed in the 1930s and 1940s, gradually
9. The use of digital electronics and more flexible programmability were vitally important steps but...
10. Notable achievements include:

11. A number of projects to develop computers based on the stored- program architecture commenced around ...
12. Computers using vacuum tubes as their electronic elements were in use
13. By the 1980s, computers had become sufficiently small and cheap to
14. On June 2008, the number of personal computers in use worldwide hit... .
15. The emerging markets are expected to double their installed PCs by 2013 and... .

3. Translate the following sentences into English. Use the information from the text.

1. Счеты и логарифмическая линейка были первыми механическими устройствами для вычислений.
2. Первое программное механическое устройство был разработан в 1837 году.
3. Джордж Стибитс - создатель современного цифрового компьютера.
4. В период с 1930-х по 1940-е годы был разработан целый ряд более мощных на тот момент вычислительных устройств.
5. Компьютеры, работающие на радиоэлектронных лампах в качестве электронных элементов, использовались на протяжении всех 50-х годов.
6. Первый транзисторный компьютер был продемонстрирован в Манчестере в 1953 году.
7. К июню 2008 года количество используемых персональных компьютеров в мире достигло 1 миллиарда.
8. Большое количество процессоров встроено в другие устройства, например, в бытовую технику, медицинское оборудование, сотовые телефоны.
9. Лишь малая часть всех компьютеров - это настольные и мобильные персональные компьютеры.

ПРАКТИЧЕСКОЕ ЗАНЯТИЕ №6

Тема: Понятие обработки данных. Обработка информации и системы обработки информации
Ведущая дидактическая цель: формирование у обучающихся навыков чтения англоязычных текстов.

Формируемые ОК/умения: ОК 01. Выбирать способы решения задач профессиональной деятельности применительно к различным контекстам; ОК 02. Использовать современные средства поиска, анализа и интерпретации информации и информационные технологии для выполнения задач профессиональной деятельности; ОК 04. Эффективно взаимодействовать и работать в коллективе и команде; ОК 09. Пользоваться профессиональной документацией на государственном и иностранном языках.

Учебные материалы: учебник, бланки с заданиями, презентация

Характер выполнения работы: Словесный, наглядный, продуктивный

Форма организации занятия: индивидуальная, в малых группах

Задания для практического занятия:

1. Read the text and translate. Data Processing and Data Processing systems

The necessary data are processed by a computer to become useful information. In fact this is the definition of data processing. *Data* are a collection of facts — unorganized but able to be organized into useful information. *Processing* is a series of actions or operations that convert inputs into outputs. When we speak of data processing, the input is data, and the output is useful information. So, we can define *data processing* as a series of actions or operations that converts data into useful information. We use the term *data processing system* to include the resources that are used to accomplish the processing of data. There are four types of resources: people, materials, facilities, and equipment. People provide input to computers, operate them, and use their output. Materials, such as boxes of paper and printer ribbons, are consumed in great quantity. Facilities are required to house the computer equipment, people and materials.

The need for converting facts into useful information is not a phenomenon of modern life. Throughout history, and even prehistory, people have found it necessary to sort data into forms that were easier to understand. For example, the ancient Egyptians recorded the ebb and flow of the Nile River and used this information to predict yearly crop yields. Today computers convert data about land and water into recommendations to farmers on crop planting. Mechanical aids to computation were developed and improved upon in Europe, Asia, and America throughout the seventeenth, eighteenth, and nineteenth centuries. Modern computers are marvels of an electronics technology that continues to produce smaller, cheaper, and more powerful components.

Basic data processing operations

Five basic operations are characteristic of all data processing systems: inputting, storing, processing, outputting, and controlling. They are defined as follows.

Inputting is the process of entering data, which are collected facts, into a data processing system. *Storing* is saving data or information so that they are available for initial or for additional processing. *Processing* represents performing arithmetic or logical operations on data in order to convert them into useful information. *Outputting* is the process of producing useful information, such as a printed report or visual display.

Controlling is directing the manner and sequence in which all of the above operations are performed.

Data storage hierarchy

It is known that data, once entered, are organized and stored in successively more comprehensive groupings. Generally, these groupings are called a data storage hierarchy. The general groupings of any data storage hierarchy are as follows:

- 1) *Characters*, Which are all written language symbols: letters, numbers, and special symbols.
- 2) *Data elements*, which are meaningful collections of related characters. Data elements are also called data items or fields.
- 3) *Records*, which are collections of related data elements.
- 4) *Files*, which are collections of related records. A set of related files is called a data base or a data bank.

2. Answer the following questions:

1. What is processing?
2. What is data processing?
3. What does the term of data processing system mean?
4. What basic operations does a data processing system include?
5. What is inputting / storing / outputting information?
6. What do you understand by resources?
7. How did ancient Egyptians convert facts into useful information?
8. When were mechanical aids for computation developed?
9. What does data storage hierarchy mean?
10. What are the general groupings of any data storage hierarchy?

3. Find English equivalents from the text:

Системы обработки информации; определение (термина) обработки данных; совокупность фактов; последовательность действий; преобразование входных данных в полезную информацию; включать ресурсы; завершить обработку данных; обеспечивать ввод информации в компьютер; ленты принтера; расходовать в большом количестве; размещать компьютерное оборудование; нуждаться (требовать) в приспособлениях; явление современной жизни; на протяжении доисторического периода; превращать информацию в выражения; регистрировать отливы и приливы; прогнозировать урожай зерновых культур; механические средства вычисления; ввод данных; хранение данных; первоначальная обработка данных; дополнительная обработка; выдача полезной информации; напечатанное сообщение; зрительное отображение; последовательность запоминания информации; записанные символы языка; элементы информации; база данных; набор взаимосвязанных файлов.

4. Translate these word chains from English into Russian:

- 1) Data resource; storage resource; network resource; security resource; system resource.
- 2) Communication facilities; data base facilities; display facilities; management facilities.

- 3) Distance control; device control; keyboard control; position control; program control.
- 4) Computer storage; laser storage; file storage; disk storage; data storage hierarchy.
- 5) Character sequence; instruction sequence; message sequence; pulse sequence.
- 6) Batch file; catalog file; data file; help file; input file; output file; menu file; user file.
- 7) Command input; data input; disk input; file input; keyboard input; program input.

5. Give right definition to these terms:

1. Computer a) the set of instructions that direct the operations of computers;
2. Computer literacy b) a part of a computer, entering data into the device;
3. A program c) facts unorganized but able to be organized;
4. Data d) the output of a data processing system;
5. Data processing e) possessing sufficient knowledge of how computers work and what they can do to use them as problem-solving tools;
6. Data processing f) a series of operations that results in the conversion of data system into useful information;
7. Input g) an electronic device performing calculations on numerical data;
8. Output h) an electronic device accepting the data processing results from the computer and displaying them;
9. Useful information i) a set of related files;
10. Data bank j) the resources required to accomplish the processing of data. These resources are personnel, material, facilities and equipment.

ПРАКТИЧЕСКОЕ ЗАНЯТИЕ №7

Тема: Компьютерные системы. Обзор. Архитектура компьютерных систем

Ведущая дидактическая цель: формирование у обучающихся навыков монологической речи.

Формируемые ОК/умения: ОК 01. Выбирать способы решения задач профессиональной деятельности применительно к различным контекстам; ОК 02. Использовать современные средства поиска, анализа и интерпретации информации и информационные технологии для выполнения задач профессиональной деятельности; ОК 04. Эффективно взаимодействовать и работать в коллективе и команде; ОК 09. Пользоваться профессиональной документацией на государственном и иностранном языках.

Учебные материалы: учебник, бланки с заданиями, презентация

Характер выполнения работы: Словесный, наглядный, продуктивный

Форма организации занятия: индивидуальная, в малых группах

Задания для практического занятия:

1. Из данных слов составьте предложения по образцу:

is known, the rear part, as, the hull, of, the stem - The rear part of the hull is known as the stem

1) as, device, multifunctional, as, computer, is, no.

2) and, sorting, program, is, database, used, searching, a, records, for.

3) amounts, with, quicker, great, they, work, of, data, much, make.

2. Прочитайте текст на английском языке, пользуясь словарём. Обращайте внимание на изученные фразы.

«Functions of computers»

Computer is one of the inventions of the 20th century that changed the world greatly. The first computers of the 1940s were enormous. But now they are almost in every family and in every office building.

Most machines do only one job, some are multifunctional (e.g. a TV set + DVD player). But no device is as multifunctional as computer. The parts of the machine (or its hardware) remain the same, you change only the program (software) and your computer immediately learns to do various things. A browser program is designed to look at pages on the Internet (you can also say to browse, this accounts for the word browser). A word processor program lets you to print text and then change styles of fonts and sizes of pages. A database program is used for searching and sorting records. Such program is

used in shops, libraries, hospitals, accountant offices, and so on. They make work with great amounts of data much quicker.

Computers are found everywhere and used in every sphere of life. In a plant one can make a computer model of a car or plane and check its resistance to stress. Such calculations without a computer could have taken several months. Computer is used at school: children watch films, presentations and web pages. This helps them to study effectively.

Computers also have some disadvantages. There is a famous joke that computers are designed to solve problems but half of the time they are the problem. As computer is a complicated device, one small breakage may stop its work. Moreover, the equipment is soon out of date.

ПРАКТИЧЕСКОЕ ЗАНЯТИЕ №8

Тема: Аппаратное и программное обеспечение. Этапы создания компьютеров

Ведущая дидактическая цель: формирование у обучающихся навыков монологической и диалогической речи.

Формируемые ОК/умения: ОК 01. Выбирать способы решения задач профессиональной деятельности применительно к различным контекстам; ОК 02. Использовать современные средства поиска, анализа и интерпретации информации и информационные технологии для выполнения задач профессиональной деятельности; ОК 04. Эффективно взаимодействовать и работать в коллективе и команде; ОК 09. Пользоваться профессиональной документацией на государственном и иностранном языках.

Учебные материалы: учебник, бланки с заданиями, презентация

Характер выполнения работы: Словесный, наглядный, продуктивный

Форма организации занятия: индивидуальная, в малых группах

Задания для практического занятия:

Hardware

What is hardware? Webster's dictionary gives us the following definition of the hardware — **the mechanical, magnetic, electronic, and electrical 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

The purpose of the input hardware is to collect data and convert it 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 hand held device connected to the computer by small cable. As the mouse is rolled across the mouse pad, 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 signal a menu selection or a command to the computer.

The **light pen** uses a light sensitive photoelectric cell to signal screen position to the computer. Another type of input hardware is optic-electronic **scanner** that is used to input graphics as well as typeset characters. **Microphone** and **video camera** can be also used to input data into the computer. Electronic cameras are becoming very popular among the consumers for their relatively low price and convenience.

Processing hardware

The purpose of processing hardware is retrieve, interpret and direct the execution of software instructions provided to 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 activities that must take place. The design of the CPU affects the processing power and the speed of the computer, as well as the amount of main memory it

can use effectively. With a well-designed CPU in your computer, you can perform highly sophisticated tasks in a very short time.

Memory is the system of 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 volatile computer memory, used for creating loading, and running programs and for manipulating and temporarily storing data;

ROM (read only memory) is nonvolatile, non-modifiable computer memory, used to hold programmed instructions to the system.

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

Storage hardware

The purpose of storage hardware is to store computer instructions and data in a form that is relatively permanent and retrieve when needed for processing. Storage hardware serves the same basic functions as do office filing systems except that it 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) - thin, usually flexible plastic disk coated with magnetic material, for storing computer data and programs. There are two formats for floppy disks: 5.25" and 3.5". 5.25" is not used in modern computer systems because of its relatively large size flexibility and small capacity. 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 read-only data can be stored. CD-ROMs are very popular now because of the growing speed which CD-ROM drives can provide nowadays.

Output hardware

The purpose of output hardware is to provide the user with the means to view information produced by the computer system. Information is output 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 component with 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 the computer system is designed to do. Hardware can fill several floors of a large office building or can fit on your lap.

Vocabulary

amount — количество

capacity — вместительность

circuitry — эл. цепи

CPU, microprocessor — микропроцессор

hard disk — жесткий диск, «винчестер»

input hardware — устройства ввода данных

keyboard — клавиатура

lap — колени

modem — модем

mouse — устройство для перемещения объектов на экране, «мышь»

output hardware — выходные устройства отображения информации

printer — принтер

processing hardware — устройства обработки данных

RAM — ОЗУ (оперативное запоминающее устройство)

ROM — ПЗУ (постоянное запоминающее устройство)

CD-ROM — накопитель на компакт-дисках (CD)

scanner — сканер

sensitive — чувствительный
sophisticated — сложный
storage **hardware** — устройства хранения данных
temporarily — временно
temporary — временный
the purpose — цель
tier — ярус
to affect — влиять
to connect — соединять
to convert — преобразовывать
to direct — управлять
to execute — выполнять
to interpret — переводить
to provide — обеспечивать
to reach — достигать
to retrieve — извлекать
to roll — катать, перекатывать
volatile — летучий, нестойкий,

1. Выберите правильный вариант ответа на вопрос и запишите его:

Which of the following is Hardware?

Hardware is a) program b) mouse c) CPU d) printer e) modem f) command
g) port h) keyboard i) character j) cursor of the pointer

2. Соотнесите термины в левой колонке с их интерпретацией, предложенной справа:

- | | |
|----------------|--|
| 1. Hardware | a) a rigid disk coated with magnetic material, used for storing programs and relatively large amounts of data. |
| 2. Software | b) the term used to describe the instructions that tell the hardware how to perform a task. |
| 3. Memory | c) the most common input device looks like a typewriter. |
| 4. Keyboard | d) the mechanical, magnetic, electronic and electrical devices composing a computer system. |
| 5. Hard disk | e) the system of computer's component in which information is stored. |
| 6. ROM | f) nonvolatile, non-modifiable computer memory used to hold programmed instructions to the system. |
| 7. Mouse | g) volatile computer memory, used for creating loading, and running programs and for manipulating and temporarily storing data. |
| 8. Floppy disk | h) a computer output device that produces a paper copy of data or graphics. |
| 9. RAM | i) an electronic device that makes possible the transmission of data to or from computer via telephone or other communication lines. |
| 10. Printer | j) a hand held device connected to the computer by small cable. |
| 11. Modem | k) thin, usually flexible plastic disk coated with magnetic material, for storing computer data and programs. |

3. Questions for Discussion

What other modern hardware devices do you know?

What are they for?

Do you know how to use them?

What is the most important part of the hardware?

What is the most expensive part of the hardware?
Without what parts computer is unable to work?

ПРАКТИЧЕСКОЕ ЗАНЯТИЕ №9

Тема: Функциональная организация компьютера

Ведущая дидактическая цель: формирование у обучающихся навыков монологической речи.

Формируемые ОК/умения: ОК 01. Выбирать способы решения задач профессиональной деятельности применительно к различным контекстам; ОК 02. Использовать современные средства поиска, анализа и интерпретации информации и информационные технологии для выполнения задач профессиональной деятельности; ОК 04. Эффективно взаимодействовать и работать в коллективе и команде; ОК 09. Пользоваться профессиональной документацией на государственном и иностранном языках.

Учебные материалы: учебник, бланки с заданиями, презентация

Характер выполнения работы: Словесный, наглядный, продуктивный

Форма организации занятия: индивидуальная, в малых группах

Задания для практического занятия:

FUNCTIONAL UNITS OF DIGITAL COMPUTERS

As we know, all computer operations can be grouped into five functional categories. The method in which these five functional categories are related to one another represents the functional organization of a digital computer. By studying the functional organization, a broad view of the computer is received.

The five major functional units of a digital computer are:

- 1) *Input*— to insert outside information into the machine;
- 2) *Storage or memory* — to store information and make it available at the appropriate time;
- 3) *Arithmetic-logical unit* — to perform the calculations; 4) *Output* — to remove data from the machine to the outside world and 5) *Control unit* — to cause all parts of a computer to act as a team.

Figure 5 shows how the five functional units of the computer act together. A complete set of instructions and data are usually fed through the input equipment to the memory where they are stored. Each instruction is then fed to the control unit. The control unit interprets the instructions and issues commands to the other functional units to cause operations to be performed on the data. Arithmetic operations are performed in the arithmetic-logical unit, and the results are then fed back to the memory. Information may be fed from either the arithmetic unit or the memory through the output equipment to the outside world. The five units of the Computer must communicate with each other. They can do this by means of a machine language which uses a code composed of combinations of electric pulses. These pulse combinations are usually represented by *zeros* and *ones*, where the *one* may be a pulse and the *zero* — a no-pulse. Numbers are communicated between one unit and another by means of these one-zero or pulse — no-pulse combinations. The input has the additional job of converting the information fed in by the operator into machine language. In other words, it translates from our language into the pulse — no-pulse combinations understandable to the computer. The output's additional job is converting the pulse — no-pulse combinations into a form understandable to us, such as a printed report.

Ознакомьтесь с терминами текста 1.

Operation — операция; работа; действие; срабатывание

To relate — связывать; устанавливать отношения

A broad view — широкий взгляд, обзор

Unit — устройство; модуль, блок; узел; элемент; ячейка

Input — ввод; устройство ввода; вводить; подавать на вход

To insert — вставлять; вносить; включать

Storage = memory — память; запоминающее устройство

Available — доступный; имеющийся в наличии

At the appropriate time — в нужное время

Arithmetic-logical unit — арифметико-логическое устройство

Output — вывод; устройство вывода; выводить; подавать на выход

To remove — удалять; устранять; вынимать; исключать

Control unit — блок управления

Cause — заставлять; вынуждать; быть причиной; причина; основание

To feed (fed, fed) — подавать; питать; вводить (данные)

To interpret — интерпретировать; истолковывать

To issue commands — выдавать команды

Pulse — no-pulse — (есть) импульс — холостой импульс

QUESTIONS

1. Просмотрите текст еще раз. Дайте ответы на вопросы, используя информацию текста.

1. What represents the functional organization of a computer? 2. What can we get by studying the functional organization?

3. What is the function of the input device? 4. What does memory serve for? 5. What is the task of the arithmetic-logical unit? 6. What is the function of the output? 7. What is the main purpose of the control unit? 8. How do all units of the computer communicate with each other? 9. What is the additional job of the input? 10. What is the additional function of the output?

2. Найдите в тексте английские эквиваленты следующих словосочетаний:

Функциональная организация; действия компьютера; связывать друг с другом; вводить информацию извне; делать информацию доступной; выполнять вычисления; выводить информацию; блок управления; выдавать команды; заставлять выполнять команды; выходное устройство; внешний мир; связываться друг с другом; комбинация электрических импульсов; холостой импульс; импульсы, распознаваемые компьютером.

3. Разделите приведенные ниже слова на три группы, определяя по суффиксу часть речи — существительное, прилагательное или наречие. Переведите слова.

Organization, functional, available, equipment, processor, completely, architectural, converter, convertible, controller, removable, logical, addition, additional, usually, accomplishment, operator, operation, mainly, communication, insertion, electronic, digital, instruction, generally, arithmetic, daily, development, central, lately, visible, substitution, understandable.

4. Вспомните значение новых слов и попытайтесь перевести словосочетания, употребляемые с этими словами.

Computer, analog computer; digital computer; hybrid computer; all-purpose computer; general-purpose computer; fifth-generation computer; game computer; handheld computer; mobile computer; multimedia computer; notebook computer; pocket computer; portable computer.

Unit: unit of memory; unit of data; unit of measurement; arithmetic unit; arithmetic-logical unit; central processing unit; computing unit; control unit; functional unit; input unit; output unit; network unit; system unit.

Function: arithmetic function; checking function; complex function; computer function; continuous function; conversion function; distribution function; encoding function; logical function; numeric function; output function; program function; search function; software function; support function; utility function; variable function.

Control: access control; batch control; coding control; distance / remote control; error control; execution control; hardware control; input/output control; memory control; power control; production control; program control; rate control; self-acting control; software control; system control.

5. Вспомните значение следующих прилагательных и преобразуйте их в сравнительную и превосходную степени.

A. Small; fast; new; long; late; wide; young; easy; great; dull; rich; bulky; large; vast; early; old; broad.

B. Frequent; reliable; approximate; significant; intricate; possible; basic; remarkable; common; modern; dependent; general; necessary; successful; scientific; universal.

C. Good; bad; little; many.

ПРАКТИЧЕСКОЕ ЗАНЯТИЕ №10

Тема: Некоторые свойства цифровых компьютеров

Ведущая дидактическая цель: формирование у обучающихся навыков монологической и диалогической речи.

Формируемые ОК/умения: ОК 01. Выбирать способы решения задач профессиональной деятельности применительно к различным контекстам; ОК 02. Использовать современные средства поиска, анализа и интерпретации информации и информационные технологии для выполнения задач профессиональной деятельности; ОК 04. Эффективно взаимодействовать и работать в коллективе и команде; ОК 09. Пользоваться профессиональной документацией на государственном и иностранном языках.

Учебные материалы: учебник, бланки с заданиями, презентация

Характер выполнения работы: Словесный, наглядный, продуктивный

Форма организации занятия: индивидуальная, в малых группах

Задания для практического занятия:

The types of computers range from the Hybrid to the Analog types. The computers you come across in the daily course of your day range from laptops, palmtops and towers, to desktop computers, to name a few. But the very word “computers” reminds one of the desktop computers used in offices or homes. Different categories of computers have been devised in keeping with our varied needs.

According to the classification based on operational principle the types of computers: analog and hybrid.

The Analog computer is almost an extinct type of computer these days. It is different from a digital computer in respect that it can perform numerous mathematical operations simultaneously. It is also unique in terms of operation as it utilizes continuous variables for the purpose of mathematical computation. It utilizes mechanical, hydraulic, or electrical energy or operation.

Hybrid computers are a combination of both Analog and Digital computers. The Digital computers which work on the principle of binary digit system of “0” and “1” can give very precise results. But the problem is that they are too slow and incapable of large scale mathematical operation. In the hybrid types of computers the Digital counterparts convert the analog signals to perform Robotics and Process control. Apart from this, computers are also categorized on the basis of physical structures and the purpose of their use. Based on capacity, speed and reliability they can be divided into three categories of computers:

1. The Mainframe Computer – these are computers used by large organizations like meteorological surveys and statistical institutes for performing bulk mathematical computations. They are core computers which are used for desktop functions of over one hundred people simultaneously.

2. The Microcomputer – these are the most frequently used computers better known by the name of “personal computers”. This is type of computer meant for public use. Other than Desktop Computer the choice ranges as follows:

A desktop is a PC that is not designed for portability. The expectation with desktop systems is that you will set the computer up in a permanent location. Most desktops offer more power, storage and versatility for less cost than their portable brethren.

Laptops, also called notebooks, are portable computers that integrate the display, keyboard, a pointing device or trackball, processor, memory and hard drive all in a battery-operated package slightly larger than an average hardcover book.

Palmtops, more commonly known as Personal Digital Assistants (PDAs), are tightly integrated computers that often use flash memory instead of a hard drive for storage. These computers usually do not have keyboards but rely on touchscreen technology for user input. Palmtops are typically smaller than a paperback novel, very lightweight with a reasonable battery life. A slightly larger and heavier version on the palmtop is the handheld computer.

A tablet PC is a notebook or slate-shaped mobile computer, first introduced by Pen Computing in the early 90s with their PenGo Tablet Computer and popularized by Microsoft. Its touchscreen or

graphics tablet/screen hybrid technology allows the user to operate the computer with a stylus or digital pen, or a fingertip, instead of a keyboard or mouse. The form factor offers a more mobile way to interact with a computer. Tablet PCs are often used where normal notebook are impractical or unwieldy, or do not provide the needed functionality.

A workstation is a desktop computer that has a more powerful processor, additional memory and enhanced capabilities for performing a special group of task, such as 3D Graphics or game development.

3. The Mini computer – Mini computers like the mainframe computers are used by business organization. The difference being that it can support the simultaneous working of up to 100 users and is usually maintained in business organizations for the maintenance of accounts and finances.

Yet another category of computer is the Super Computers. It is somewhat similar to mainframe computers and is used in economic forecasts and engineering designs. Today life without computers is inconceivable. Usage of different types of computers has made life both smooth and fast paced.

Выпишите из текстов английские эквиваленты следующих слов и выражений.

точный, определенный, наблюдение, обзор, настольный компьютер, основная масса, базовый, исходя из, на основе, устаревший, часто, наводит на мысль, означать, натолкнуться на что-либо, одновременно, карманный компьютер, принимая во внимание, робототехника, персональный цифровой секретарь, переменная величина.

Определите форму и функцию инфинитива. Переведите предложение на русский язык.

To summarize the findings of this tremendous work would require many pages.

Определите форму и функцию причастия. Переведите предложение на русский язык.

The feasibility of this system depends on several related factors.

Определите форму и функцию герундия. Переведите предложение на русский язык.

Trying to minimize the importance of the discovery was of no use.

Кратко опишите каждый вид компьютера.

ПРАКТИЧЕСКОЕ ЗАНЯТИЕ №11

Тема: Логические элементы схемы. Определение механического мозга

Ведущая дидактическая цель: формирование у обучающихся навыков монологической и диалогической речи.

Формируемые ОК/умения: ОК 01. Выбирать способы решения задач профессиональной деятельности применительно к различным контекстам; ОК 02. Использовать современные средства поиска, анализа и интерпретации информации и информационные технологии для выполнения задач профессиональной деятельности; ОК 04. Эффективно взаимодействовать и работать в коллективе и команде; ОК 09. Пользоваться профессиональной документацией на государственном и иностранном языках.

Учебные материалы: учебник, бланки с заданиями, презентация

Характер выполнения работы: Словесный, наглядный, продуктивный

Форма организации занятия: индивидуальная, в малых группах

Задания для практического занятия:

I. Look up in the dictionary how to pronounce the following words. Write them down in the dictionary.

| | | |
|-----------|-------------|-------------|
| to adjust | to check in | to maintain |
| advanced | to enable | a marvel |
| to amend | to execute | random |
| to assist | to guide | to rely on |

| | | |
|---------------|-----------|-----------------|
| to conjure | an image | a relative ease |
| to contribute | huge | to resemble |
| conversing | launching | a terminal |

II. Read the text and do the exercises that follow it.

Computer Applications

Many people have or will have had some experience of ‘conversing’ with computers. They may have their own micro-computer, they may use a terminal from the main company at work or they may have a television set with a view data facility. Those who do not have this experience may observe the staff at, for example, an airline check-in or a local bank branch office sitting at their desks, pressing keys on a typewriter like a keyboard and reading information presented on a television type screen. In such a situation the check-in clerk or the branch cashier is using the computer to obtain information (e.g. to find out if a seat is booked) or to amend information (e.g. to change a customer’s name and address).

The word computer conjures up different images and thoughts in people’s mind depending upon their experiences. Some view computers as powerful, intelligent machines that can maintain a ‘big brother’ watch over everyone. Others are staggered and fascinated by the marvels achieved by the space programs of the superpowers, where computers play an important part.

Numerous factories use computers to control machines that make products. A computer turns the machines on and off and adjusts their operations when necessary. Without computers, it would be impossible for engineers to perform the enormous number of calculations needed to solve many advanced technological problems. Computers help in the building of spacecraft, and they assist flight engineers in launching, controlling and tracking the vehicles. Computers also are used to develop equipment for exploring the moon and planets. They enable architectural and civil engineers to design complicated bridges and other structures with relative ease.

Computers have been of tremendous help to researchers in the biological, physical and social sciences. Chemists and physicists rely on computers to control and check sensitive laboratory instruments and to analyze experimental data. Astronomers use computers to guide telescopes and to process photographic images of planets and other objects in space.

Computers can be used to compose music, write poems and produce drawings and paintings. A work generated by a computer may resemble that of a certain artist in birth style and form, or it may appear abstract or random. Computers are also used in the study of the fine arts, particularly, literature. They have also been programmed to help scholars identify paintings and sculptures from ancient civilizations.

But computers do not have intelligence in the way humans do. They cannot think for themselves. What they are good at is carrying out arithmetical operations and making logical decisions at phenomenally fast speed. But they only do what humans program gives them to do.

Apart from the speed at which computers execute instruction, two developments in particular have contributed to the growth in the use of computers – efficient storage of large amounts of data and diminishing cost. Today, computers can store huge amount of information on magnetic media and any item of this information can be obtained in a few milliseconds and displayed or printed for the user.

III. Translate these into your own language:

- | | |
|------------------------------------|-----------------------------------|
| 1. some experience of conversing | 8. advanced technological problem |
| 2. view data facility | 9. to guide telescopes |
| 3. to obtain information | 10. ancient civilization |
| 4. powerful, intelligent machine | 11. arithmetical operations |
| 5. to be staggered and fascinated | 12. logical decisions |
| 6. to adjust operations | 13. to execute instructions |
| 7. enormous number of calculations | 14. efficient storage |

IV. Translate these into English:

1. использовать терминал главной компании

2. нажимать кнопки на клавиатуре
3. получить информацию
4. различные образы
5. компьютер включает и выключает машины
6. разработать оборудование для исследования Луны и других планет
7. чувствительное оборудование
8. анализировать экспериментальные данные
9. могут быть использованы для сочинения музыки
10. работа, управляемая компьютером
11. помочь ученым определить
12. не могут думать сами
13. хорошо справляться с выполнением
14. вносить вклад

V. Give the situation from the text in which the following words and expressions are used:

- | | |
|--------------------------------|--------------------------------------|
| 1. people have some experience | 6. to process photographic images of |
| 2. different images | 7. to resemble |
| 3. it would be impossible | 8. intelligence |
| 4. spacecraft | 9. fast speed |
| 5. enable to design | 10. magnetic media |

VI. Fill in the gaps necessary prepositions:

1. People may use a terminal the main company work.
2. A clerk can press keys a typewriter.
3. The word computer conjures a different images.
4. A computer turns the machine and
5. Computers help building of spacecraft.
6. They are used to develop equipment exploring the moon and planets.
7. Chemists and physicists rely computers to control sensitive instruments.
8. Computers don't have intelligence the way humans do.
9. Computers are good arithmetical operations.
10. Computers can store huge amounts of information magnetic media.

VII. Ask questions to which the following statements might be the answers:

1. People may use a terminal from the main company at work.
2. In such a situation the check-in clerk is using the computer to obtain information.
3. The word computer conjures up different images and thoughts in people's mind.
4. Numerous factories use computers to control machines that make products.
5. A computer turns the machine on and off and adjust their operations.
6. Computers help in the building of spacecraft and assist flight engineers in launching.
7. Chemist and physicists rely on computers.
8. A work generated by a computer may resemble that a certain artist in a birth style and form.
9. Computers do only what humans program them to do.
10. Computers obtain huge amounts of information in a few milliseconds.

VIII. Agree or disagree with the following statements:

1. Only a few people have or will have had some experience of «conversing» with computers.
2. The word computer conjures up the same images and thoughts in computer's brain depending upon the structure of the computer.
3. Without computers it would be impossible for engineers to perform the enormous number of calculations.
4. Architects and civil engineers can't design complicated bridges and other structures with the help of computers.

5. Computers haven't been of tremendous help to researchers in the biological, physical and social sciences.
6. Poets and physicists rely on computers to control and check sensitive laboratory equipments.
7. Computers can be used to compose music, write poems and produce drawings and paintings.
8. Computers have intelligence in the way humans do.
9. Today, computers are very big, slow and can store little information on magnetic media.

IX. Write the plan of the text to retell it in English.

X. Points for discussion: advantages and disadvantages of comp

ПРАКТИЧЕСКОЕ ЗАНЯТИЕ №12

Тема: Устройства ввода-вывода. Среда устройств ввода-вывода.

Ведущая дидактическая цель: формирование у обучающихся представления об устройствах ввода-вывода.

Формируемые ОК/умения: ОК 01. Выбирать способы решения задач профессиональной деятельности применительно к различным контекстам; ОК 02. Использовать современные средства поиска, анализа и интерпретации информации и информационные технологии для выполнения задач профессиональной деятельности; ОК 04. Эффективно взаимодействовать и работать в коллективе и команде; ОК 09. Пользоваться профессиональной документацией на государственном и иностранном языках.

Учебные материалы: учебник, бланки с заданиями, презентация

Характер выполнения работы: Словесный, наглядный, продуктивный

Форма организации занятия: индивидуальная, в малых группах

Задания для практического занятия:

1. a mouse 
2. a keyboard 
3. a track ball 
4. a scanner 
3. a touch panel 
4. a graphical plotting table 
5. a digital video camera 
6. a TV tuner 
7. a sound card 

New lexical material.

keyboard- ['ki:bɔ:d]- клавиатура

key-[ki:] - клавиша; кнопка; переключатель; набирать на клавиатуре

manipulator- [mә'ni:pjuleitә]-манипулятор; блок обработки

trackball-['trak,bol]- трекбол

touch panel- [tʌʃ 'ræpәl] -сенсорная панель

graphic plotting tables- ['græfik plɔtiN teibls]- графические планшеты

sound card- [saund kɑ:d] звуковая карта (плата)
 enable- [ɪ'neɪbl] -разрешать; позволять; допускать; делать возможным.
 operating mode- ['ɒpəreɪtɪŋ məʊd] режим работы
 press a button- [pres ə 'bʌtn] -нажать на кнопку
 keep buttons depressed- [ki:p 'bʌtnz dɪ'prest] удерживать кнопку в нажатом состоянии
 double-click- ['dʌbl,klɪk]- двойное нажатие
 erase images- [ɪ'reɪz 'ɪmɪdʒz] удалить; стереть изображение (объект)
 roller- ['rəʊlə]- ролик (валик)
 track- [træk]- следить; прослеживать; проходить; след; дорожка; соединение
 by means of- [baɪ mi:nz əv] посредством
 permitting capacity- ['pɜ:mɪtɪŋ kə'pæsəti] разрешающая способность

Read the text and do the exercises that follow it.

Input devices

There are several devices used for inputting information into the computer: a keyboard, a some coordinate input devices, such as manipulators (a mouse, a track ball), touch panels and graphical plotting tables, scanners, digital cameras, TV tuners, sound cards etc.

When personal computers first became popular, the most common device used to transfer information from the user to the computer was the keyboard. It enables inputting numerical and text data. A standard keyboard has 104 keys and three more ones informing about the operating mode of light indicators in the upper right corner.

Later when the more advanced graphics become to develop, user found that a keyboard did not provide the design capabilities of graphics and text representation on the display. There appeared manipulators, a mouse and a track ball, that are usually used while operating with graphical interface. Each software program uses these buttons differently.

The mouse is an optic- mechanical input device. The mouse has three or two buttons which control the cursor movement across the screen. The mouse provides the cursor control thus simplifying user's orientation on the display. The mouse's primary functions are to help the user draw, point and select images on his computer display by moving the mouse across the screen.

In general software programs require to press one more buttons, sometimes keeping them depressed or double- click them to issue changes in commands and to draw or to erase images. When you move the mouse across a flat surface, the ball located on the bottom side of the mouse turns two rollers. One is tracking the mouse's vertical movements, the other is tracking horizontal movements. The rotating ball glides easily, giving the user good control over the textual and graphical images.

In portable computers touch panels or touch pads are used instead of manipulators. Moving a finger along the surface of the touch pad is transformed into the cursor movement across the screen.

Graphical plotting tables (plotters) find applications in drawing and inputting manuscript text. You can draw, add notes and signs to electronic documents by means of a special pen. The quality of graphical plotting tables is characterized by permitting capacity, that is the number of lines per inch, and their capability to respond to the force of pen pressing.

Scanner is used for optical inputting of images (photographies, pictures, slides) and texts and converting them into the computer form.

Digital video cameras have been spread recently. They enable getting video images and photographs directly in digital computer format. Digital cameras give possibility to get high quality photos.

Sound cards produce sound conversion from analog to digital form. They are able to synthesize sounds. Special game-ports and joysticks are widely used in computer games.

Answer the questions.

1. What devices are used for inputting information into the computer?
2. What was the most common device in early personal computers?
3. What is the function of a keyboard?

4. Why do many users prefer manipulators to keyboard?
5. How does the mouse operate?
6. What is its function?
7. What role does the ball on the bottom of the mouse play?
8. What is used in portable computers instead of manipulators?
9. What is the touch pad's principle of operation?
10. Where do graphical plotting tables find application?

Find out English equivalents in the text.

1. введение информации (inputting information);
2. координатные устройства (coordinate input devices);
3. манипуляторы (manipulators);
4. стандартная клавиатура (a standard keyboard);
5. управлять движением курсора (control the cursor movement);
6. оптико-механическое устройство ввода (an optic-mechanical input device);
7. удерживать кнопки в нажатом состоянии (keeping bottoms depressed);
8. ровная поверхность (flat surface);
9. вращать ролики (turn rollers);
10. рукописный текст (manuscript text);
11. портативный компьютер; (portable computer)
12. световые индикаторы (light indicators);
13. режим работы (operating mode);
14. разрешающая способность (permitting capacity).

ПРАКТИЧЕСКОЕ ЗАНЯТИЕ №13

Тема: Новые средства информации.

Ведущая дидактическая цель: формирование у обучающихся представления о новых средствах информации.

Формируемые ОК/умения: ОК 01. Выбирать способы решения задач профессиональной деятельности применительно к различным контекстам; ОК 02. Использовать современные средства поиска, анализа и интерпретации информации и информационные технологии для выполнения задач профессиональной деятельности; ОК 04. Эффективно взаимодействовать и работать в коллективе и команде; ОК 09. Пользоваться профессиональной документацией на государственном и иностранном языках.

Учебные материалы: учебник, бланки с заданиями, презентация

Характер выполнения работы: Словесный, наглядный, продуктивный

Форма организации занятия: индивидуальная, в малых группах

Задания для практического занятия:

I. Look up in the dictionary how to pronounce the following words. Write them down in the dictionary.

| | | | |
|-----------|------------|------------|-----------|
| circular | octal | contiguous | comparing |
| to assume | a value | cell | selecting |
| decimal | a location | adequate | sorting |
| to handle | uniquely | precise | matching |

II. Read the text and do the exercises that follow it:

Information, machine words, instructions, addresses and reasonable operations

Information is a set of marks or signs that have meaning. These consist of letters or numbers, digits or characters, typewriter signs, other kinds of sign and so on. So, information is the end product of people obtained from computer systems. The process of using computer is circular beginning and ending with people.

When we see number 562 we normally assume that it represents five hundred and sixty-two. This is because we are conditioned to the decimal system where the base is 10. Nowadays school children are taught to handle numbers with different bases such as octal (8) and binary (2). With the number 562 we understand this to mean that we have 5 hundreds, 6 tens and 2 units ($5 \cdot 100 + 6 \cdot 10 + 2 \cdot 1$) so each digit has a meaning represented by its value and its position.

Computers work by using the binary system where the base is 2. This means that each position can have a value of 0 or 1. So any information may be represented by the binary system including these two digits. Because at their most basic level, computers only understand the language of electricity: positive (or on or 1) and negative (or off or 0). Instead of going up in powers of ten ($10, 10 \times 10, 10 \times 10 \times 10$) the positions go up in powers of 2 ($2, 2 \times 2, 2 \times 2 \times 2, 2 \times 2 \times 2, \text{etc.}$)

Thus the binary number 1001 can be represented as:

| | | | |
|---------------------|-----------------|-------------|----------------|
| 2 x 2 x 2s position | 2 x 2s position | 2s position | units position |
| 1 | 0 | 0 | 1 |

Thus number can be converted to decimal

$$2 \times 2 \times 2 \times 1 = 8 \times 1 = 8$$

$$2 \times 2 \times 0 = 4 \times 0 = 0$$

$$2 \times 0 = 0$$

$$1 = 1$$

$$9$$

So 1001 in binary has the same value as 9 in decimal.

The memory of a computer consists of a large number of locations, each of which is uniquely addressable. In most modern computers these locations are called bytes. They consist of eight positions and each position can be set to 0 or 1. These positions are bits. A bit is the smallest part of information and it is the basic unit of data recognized by the computer. Bits are grouped in units that are called bytes. A byte consists of eight bits.

A group of contiguous bytes that can be manipulated together is called a word. A word may be 2 bytes (16 bits) or 4 bytes (32 bits) or other combinations. 16 bits can hold number up to 65,535. Word length is the term used to describe a word's size in numbers of bits.

The memory of the computer can hold instructions that the control unit acts upon, and it can store binary numbers on which arithmetical operations can be carried out. A large number of business operations, and computer-based training in particular, do very little with numbers. They are mostly concerned with accepting as input, manipulating and presenting as output, large quantities of character information—names and addresses.

An address is the name of particular memory location or cell. Each memory location (word or byte) has its own unique address or number just as a post office box. If one character is stored in a byte, there are 256 possible characters that the different bit patterns can represent. That is quite adequate for all alphabetic characters in upper and lower case, the number 0 to 9 and the various punctuation and special characters that are found on a typewriter keyboard. One widely used coding convention is ASCII (American Standard Code for Information Interchange), pronounced as the two words «ass» and «key».

This is a part of the ASCII Code

| | | | | | | | | | | |
|------------|----|----|----|----|----|----|----|----|----|----|
| Character | % | E+ | ' | () | * | + | , | - | . | / |
| ASCII Code | 37 | 38 | 39 | 40 | 42 | 43 | 44 | 45 | 46 | 47 |
| Character | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| ASCII Code | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 |
| Character | A | B | C | D | E | F | G | H | I | J |
| ASCII Code | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 |

Thus, if we wanted to hold FRANKLIN in part of the correct answer it could be held somewhere in memory (say location 5390 onwards) as the following ASCII codes:

| | | | | | | | | |
|-----------------|------|------|------|------|------|------|------|------|
| Letter | F | R | A | N | K | L | I | N |
| Code in memory | 70 | 82 | 65 | 78 | 75 | 76 | 73 | 78 |
| Memory location | 5390 | 5391 | 5392 | 5393 | 5394 | 5395 | 5396 | 5397 |

Computer people generally refer to 1000 (1024 to be precise) byte as a kilobyte (kb) and a million bytes as a megabyte (mb). So, if somebody has a microcomputer with 640 k memory locations than means there are 640,000 locations in the machine.

Reasonable operations are mathematical and logical. Mathematical operations include arithmetical and algebraic operations. Arithmetical operations are addition, subtraction, multiplication, division, taking a square root, etc.; and algebraic operations are called raising to a power as well as differentiating and integrating.

Logical operations include comparing, selecting, sorting, matching, etc.

III. Translate these into your own language:

- | | |
|--|--------------------------------|
| 1. a set of marks and signs | 7. bytes |
| 2. circular beginning and ending with people | 8. bits are grouped |
| 3. we are conditioned to the decimal system | 9. can be manipulated together |
| 4. base | 10. to hold instructions |
| 5. including these two digits | 11. memory location |
| 6. the positions go up in powers of 2 | 12. to include |

IV. Translate these into English:

- | | |
|---------------------------------|---------------------------------|
| 1. множество знаков | 7. десятичное число |
| 2. число представляет | 8. запоминать, хранить в памяти |
| 3. учат работать с числами | 9. выполнять |
| 4. у каждого есть свое значение | 10. точно |
| 5. двоичная система исчисления | 11. разумные операции |
| 6. основной уровень | |

V. Fill in the necessary words:

- is a set of marks or signs.
- We are conditioned to the
- Computers work by using the where the is 2.
- The of a computer consists of a large number of locations.
- A is the smallest part of information.
- A byte consists of 8
- The memory of the computer can instructions.
- Computer people generally 1 000 bytes as a kilobyte.

VI. Fill in the prepositions:

- Nowadays school children are taught to handle numbers different bases.
- their most basic level, computers only understand the language of electricity.
- Instead of going in powers of ten, the positions go powers of 2.
- Each position can be set 0 or 1.
- Bits are grouped units.
- The memory can store binary numbers which arithmetical operations can be carried

VII. Give the correct definitions of the following terms:

- | | | | |
|------------------|---------|------------|-------------------------|
| a) information | c) bit | e) word | g) reasonable operation |
| b) binary system | d) byte | f) address | |

VIII. Answer the following questions:

- What is information?
- Do computers work by using binary or decimal system?
- What is the base of the binary system?
- How can any information be represented?
- What is the ASC II Code?

IX. Write you last name in letters and codes in memory and in memory locations, use the ASC II Code.

X. Retell the text.

ПРАКТИЧЕСКОЕ ЗАНЯТИЕ №14

Тема: Способы работы компьютера и его конструкция

Ведущая дидактическая цель: формирование у обучающихся навыков монологической и диалогической речи.

Формируемые ОК/умения: ОК 01. Выбирать способы решения задач профессиональной деятельности применительно к различным контекстам; ОК 02. Использовать современные средства поиска, анализа и интерпретации информации и информационные технологии для выполнения задач профессиональной деятельности; ОК 04. Эффективно взаимодействовать и работать в коллективе и команде; ОК 09. Пользоваться профессиональной документацией на государственном и иностранном языках.

Учебные материалы: учебник, бланки с заданиями, презентация

Характер выполнения работы: Словесный, наглядный, продуктивный

Форма организации занятия: индивидуальная, в малых группах

Задания для практического занятия:

I. Look up in the dictionary how to pronounce the following words. Write them down in the dictionary.

| | | |
|------------|---------------|----------------|
| regardless | to monitor | to fit |
| to enter | a hardware | representative |
| a routing | peripheral | available |
| to direct | a variety | to purchase |
| a property | an occurrence | a competitor |
| to modify | to afford | incredibly |
| solely | to confine | to convince |

II. Read the text and do the exercises that follow it.

Kinds of Computers

All computer systems, regardless of their size, have the same four hardware components:

1. A processor or CPU, where the data input is processed according to the program.
2. Input/output devices or peripherals such as the keyboard and printer, which receive data from people and enter it into the computer for processing, then send it back to people so it can be used.
3. Storage components such as disk drives or tape drives keep data for later use.
4. Routing and control components, which direct the instructions and/or data from one component to the next making sure each does its task properly.

Computers are generally classified as general-purpose or special purpose machine. A general-purpose computer is one used for a variety of tasks without the need to modify or change it as the tasks change. A common example is a computer used in business that runs many different application.

A special-purpose computer is designed and used solely for one application. The machine may need to be redesigned and certainly reprogrammed, if, it is to perform another task. Special-purpose computers can be used in a factory to monitor a manufacturing process; in research to monitor seismological, meteorological and other natural occurrences; and in the office.

So all computers have in common, but certain computers differ from one another. These differences often have to do with the way a particular computer is used. That is why we can say there are different types of computers that are suited for different kinds of work or problem solving.

Personal computer is a computer system that fits on a desktop, that an individual can afford to buy for personal use, and that is intended for a single use.

Personal computers include desktops, laptops and workstation. Each type of a personal computer shares many characteristics in common with its counterparts, but people use them in different ways.

The Desktop Personal computer is a computer that:

- fits on a desktop
- is designed for a single user
- is affordable for an individual to buy for personal use.

Desktop personal computers are used for education, running a small business, or in large corporation, to help office workers be more productive. There are some common desktop personal computers:

- The IBM PC and PC-compatible
- The Compaq Deskpro 386
- The IBM PS/2
- The Apple Macintosh

The Laptop Personal Computer is a computer that people can take with them, laptop is used by a single individual but can be used in many different places, it is not confined by its size or weight to a desktop. It has the same components as a desktop machine but in most cases the monitor is built in. The printer is usually separate.

Laptops fall into the same general categories as desktop personal computers:

- PC-compatibles
- IBM PC/2
- Apple Macintosh portable

Managers and employees who travel frequently use laptops to keep in touch with their office. Sales representatives keep company information on their laptops to show prospective clients, and send electronic orders into the company computers. Writers use laptops so they can work on their manuscript no matter where they are.

There are many portables available today, some weigh as much as 15 pounds, while others weigh as little as 3 pounds. There are laptops so small they fit in the palm of your hand. There are laptops that fit in a briefcase, called notebook computers.

The Workstation is a computer that fits on a desktop, but is more powerful than a desktop computer. The workstation has a more powerful microprocessor, is able to service more than one user, has an easy to use interface and is capable of multitasking. While these three characteristics used to be unique to workstation, they are being adapted to the more powerful 386 and 486 personal computers over time.

Workstations are designed for three major tasks: scientific and engineering, office automation and education.

The Minicomputer, or mini, is a versatile special or general-purpose computer designed so that many people can use it at the same time. Minis operate in ordinary indoor environments; some require air conditioning while others do not. Minis also can operate in less hospitable places such as on ships and planes.

Like all computers, the minicomputer is designed as a system. CPUs, terminals, printers and storage devices can be purchased separately. Mini systems are more mobile, easier to set up and install. A minicomputer system combined with specialized equipment and peripherals is designed to perform a specific task. A popular minicomputer is the Digital VAX Computer.

Mainframe is the largest general-purpose computer. It is designed to be used by hundreds even thousands of people. A mainframe uses the same basic building blocks of a computer system: the CPU, various I/O devices and external memory.

Most mainframe computers are general-purpose machines. In 1964 introduced the System/360 mainframe computer. It became the most popular mainframe in the computer history.

A Supercomputer is a very fast special-purpose computer designed to perform highly sophisticated or complex scientific calculations. For example calculating a prime number (one that is divisible only by 1 and itself), or the distance between planets. But computers permit turning many other problems into numbers, such as molecular modeling, geographic modeling and image processing.

Cray is a leading supercomputer maker, with IBM and Fujitsu as major competitors.

A Cray X-MP Supercomputer was used to help to make a movie called 'The last starfighter' Computer animation isn't new but using the X-MP added a whole new dimension of sophistication. Its

most remarkable accomplishment was creating the entire bridge of the alien's starship, complete with animated aliens walking around next to real actors. Because the Cray could process the image in incredibly fine detail, the average viewer would think it looked absolutely real. The X-MP allowed animators to make illusion as convincing as reality itself.

It is interesting to know that ...

PCs and PC-compatibles are used in organization of all sizes. PCs are an office time saver, allowing the staff to write press releases and legislative testimony, performs accounting tasks, and prepares mailing lists more quickly. It also paves the way for organization to complete more effectively with other public interest groups. Today, over 80 percent of Public Citizen's employees use PC-compatibles. Word processing has replaced typewriters, hard disk drive storage has reduced the amount of paper kept in filing cabinets, and laser printing has cut their outside printing costs dramatically.

Banks have traditionally used the latest computer technology to automate their own operations, but First Banks for Business found a way to use personal computers to improve customer service. In the past, when a customer wanted to cash a check, the signature card had to be compared to verify identity. That meant looking through a card file or containing central book-keeping, which could take as long as 30 minutes.

Now Banks for Business installed PC-2s with special graphics capabilities and software called Signet to perform the task. When the letters retrieve customer account information from the computer, they see the authorized signatures appear right on the screen. The system also tells them what other signatories are permitted on the account or if two signatures are required to cash a check. The banks say the main reason customers change banks is due to bad service. Using the powerful PS-2s signet, they can cash a customer's check in a minute or less.

People use laptops for many of the same tasks that they use desktops and more.

Astrophysicists use Sun Microsystems workstations for their engineering work. They routinely sketch graphs and diagrams on the screen using computer-aided drafting software, as well as sophisticated calculation software to test mathematical equations. They also exchange ideas and information with each other in electronic messages. One project they have worked on in cooperation with NASA is the Advanced X-Ray Astrophysic Facility. It is an observatory in space that will measure cosmic Xrays, which are invisible an earth. The astrophysicists hope that the information provided will help them understand better how the universe was formed and what is eventual fate will be.

The Sun workstation performed an additionally important task: helping gather visual and textual information into a comprehensive report for NASA to explain how an X-ray telescope would function abroad the observatory. Using electronic publishing software, they combined graphics screens, mathematical equations, and textual explanations into a document that took just six hours to prepare. Previously, it would have taken two days.

III. Fill in the necessary words:

1. are generally classified as general – or special-purpose machine.
2. A special-purpose computer is designed and used for one application.
3. Personal computer on a desktop.
4. Each type of a personal computer many characteristics in common with their counterparts.
5. There are many portables today.
6. CPUs, terminals, printers and storage devices can be separately.

IV. Agree or disagree with the following statements:

1. All computer systems have the same five hardware components.
2. Input/output devices receive data, enter it into the computer for processing, then send it back to people so it can be used.
3. Storage components don't keep data for later use.
4. Computers are general-purpose machines.
5. The machine may need to be redesigned and certainly reprogrammed.

6. We can't say, that there are different types of computers.

V. Ask questions to which the following statements might be the answer:

1. Desktop personal computers are used for education, running a small business or in large corporation to help office workers be more productive.
2. Laptops fall into the same general categories as desktop personal computers.
3. The workstation is a computer that fits on a desktop.
4. Workstations are designed for three major tasks.
5. A minicomputer system combined with specialized equipment and peripherals is designed to perform a specific task.
6. A mainframe uses the same basic building blocks of a computer system: the CPU, I/O devices and external memory.

VI. Answer the following questions:

1. What have all computers in common?
2. How can we classify computers?
3. What are general /special-purpose computers used for?
4. What are three primary types of personal computers?
5. What is the primary difference between personal computer and workstation?
6. What are major tasks of a workstation?
7. What is minicomputer used for?
8. What does the supercomputer differ from the general-purpose mainframe computer?
9. What are two main characteristics of the supercomputer?

VII. Find the synonyms to the following words:

a component, a device, to receive, to enter, to keep, to handle,
to run, to confine, to fit, terminals, calculation

VIII. Find the antonyms to the following words:

to pay attention to, unprocessed, undirect, monotony, designed
programmed, similar, similarity, unlimited, unite, rare, single, task
together, slow, odd, number, simplicity, to destroy

IX. Match the words of the first column with those of the second one:

- | | |
|----------------|------------------------------------|
| 1. regardless | 1. убеждать |
| 2. to enter | 2. проверять |
| 3. a routing | 3. покупать |
| 4. to direct | 4. ограничиваться |
| 5. to modify | 5. входить |
| 6. to purchase | 6. видоизменять |
| 7. to convince | 7. программа |
| 8. solely | 8. не обращая внимание |
| 9. to monitor | 9. ладонь |
| 10. occurrence | 10. представлять/ быть в состоянии |
| 11. to afford | 11. исключительно |
| 12. to confine | 12. управлять |
| 13. a palm | 13. случай |

X. Give the definitions to the following terms:

1. computer
2. supercomputer
3. special-purpose computer
4. general-purpose computer
5. personal computer

6. minicomputer

7. mainframe

ПРАКТИЧЕСКОЕ ЗАНЯТИЕ №15

Тема: Современные портативные компьютеры. Ноутбук или современный лэптоп

Ведущая дидактическая цель: формирование у обучающихся представления о современных портативных компьютерах.

Формируемые ОК/умения: ОК 01. Выбирать способы решения задач профессиональной деятельности применительно к различным контекстам; ОК 02. Использовать современные средства поиска, анализа и интерпретации информации и информационные технологии для выполнения задач профессиональной деятельности; ОК 04. Эффективно взаимодействовать и работать в коллективе и команде; ОК 09. Пользоваться профессиональной документацией на государственном и иностранном языках.

Учебные материалы: учебник, бланки с заданиями, презентация

Характер выполнения работы: Словесный, наглядный, продуктивный

Форма организации занятия: индивидуальная, в малых группах

Задания для практического занятия:

I. Look up in the dictionary how to pronounce the following words. Write them down in the dictionary.

| | | | | |
|-----------------|-------------|------------|------------|-------------|
| flipping toggle | to comprise | a notation | to issue | ambiguity |
| awkward | to declare | a source | a compiler | to retrieve |

II. Read the text and do the exercises that follow it.

Programming Languages

Programming has been with us for over 40 years but it wasn't born at the time as the first computers. When the first early computers were built, there were no programming languages. First machines were initially programmed by flipping toggle switches and changing cables. Needless to say, this was a slow, awkward process. People began quickly searching for a better, faster way to issue instructions to the computer.

The result was what we call Programming Languages. The programming languages fall into three general categories. They are comprised of ones and zeros, and are directly understood or executed by hardware. Electronic circuitry turns these 0s and 1s into the operations the computer performs.

Assembly Languages are powerful programming tools because they allow programmers a large amount of direct control over the hardware. They offer programmers greater ease in writing instructions but preserve the programmer's ability to declare exactly what operations the hardware performs. Assembly languages are machine-specific, or machine-dependent. Machine-dependent means the instructions are specific to one type of computer hardware. Assembly languages are still provided by most computer manufacturers – they can't be translated and used on another computer.

Assembly code for a Prime mini won't work on a Digital mini. Assembly code can't even be transferred between some machines built by the same manufacturer. For the most part, assembly languages are used by systems programmers to develop operating systems and their components.

So Assembly languages were the first bridge between the English Language and the computer's binary language. The creation of high-level programming languages followed. A high-level language is a language in which each instruction or statement correspond to several machine code instructions.

As high-level languages are a method of writing programs using Englishlike words as instructions, they allow users to write in a notation with which they are familiar, e.g., Fortran in mathematical notation, Cobol in English.

High-level programming languages combine several machine language instructions into one high-level instruction. Low-level languages required only a single letter or a short mnemonic a term, or a word that is easy to identify, such as ADD for addition. High-level language requires just a single statement.

A Statement is an expression of instruction in a programming language. For example, PRINT FILE, TXT is a statement. A statement translates into one or more instructions at the machine language

level. Each programming language includes a set of statement and a syntax. Syntax is the set of rules governing the language's structure and statements. The syntax rules may include how statements are written, the order in which statements occur, and how sections of programs are organized.

FORTRAN was created in 1954 by John Backus. And it was one of the first high-level languages for FORmular TRANslator. Fortran allows programmers to calculate complex formulas with a few source code instructions. It is used for scientific and mathematical problems. The source program is written using combination of algebraic formulas and English statements of a standard but readable form.

Another high-level machine language is Cobol. Cobol was developed by the Conference on Data Systems Languages. Cobol was issued by the US Government Printing Office in 1960. Cobol stands for Common Business-Oriented Language. The source program is written using statements in English. It was made for business industry, government and education applications. This means that Cobol «has a place for everything» and requires programmers to «put everything in its place». Cobol programs are separated into four sections, called divisions:

1. The Identification Division (раздел идентификации) documents the program name, the programmer's name (s), dates and any other important identification information.
2. The Environment Division (раздел оборудования) names the computer hardware, including the CPU and I/O devices.
3. Data Division (раздел данных) identifies all associated files and working storage sections of the program.
4. The Procedure Division contains all the instructions in the Cobol program.

Cobol divisions are further divided into paragraphs and sections. This structure helps programmers write code efficiently and with a minimum of repetition and confusion.

Algol was developed as an international language for the expression of the algorithms between individuals, as well as programming language. It was introduced in the early 1960s. Algol stands for ALGOritmic Language. This language is used for mathematical and scientific use. An Algol program consists of data items, statements and declarations, organized into a program structure BASIC or the Beginners AU-purpose Symbolic Instruction Code, was developed over a period of years by professors John Kemeny and Thomas Kurtz and students in the computer science program at Dartmouth College. It was released in 1965. In most versions, BASIC is an unstructured language. The original Basic was easy to learn allowing computer users to write simple programs within a few minutes.

Basic uses five major categories of statements:

- Arithmetical statements allow users to use Basic like a calculator
- Input/ Output statements, including READ, DATA, INPUT and PRINT
- Control statements including GOTO, IF-THEN, FOR, NEXT and END control the sequence of instructions executed by the computer
- Other statements help document Basic programs and set up data dimensions respectively
- System Commands tell the operating system how to work with Basic programs

RUN means execute a program

LIST directs the computer to display a Basic program.

III. Fill in the gaps necessary words or expressions:

1. First machines were by flipping toggle switches and
2. The programming languages fall into
3. They are comprised of and
4. are powerful programming tools.
5. Machine-dependent means
6. A high-level language is a language in which
7. is an expression of instruction in a programming language.
8. allows programmers to calculate complex formulas with a few source code instructions.
9. stands for ALGOritmic Language.
10. Basic uses

IV. Fill in the prepositions:

1. Programming has been us for over 40 years.
2. People began searching a better, faster way to issue instructions to the computer.
3. They offer programmers greater ease writing instructions.
4. Assembly code a Prime mini won't work a Digital mini.
5. Assembly languages were the first bridge the English Language and the computer's binary language.
6. A statement translates one or more instructions the machine language level.
7. System Commands tell the operating system how to work ... Basic programs.

V. Find the synonyms to the following words:

to execute, a tool, to allow, to preserve a notation, to issue, to differ

VI. Find the antonyms to the following words:

to die, to be destroyed, important, slowly, indirectly, difficulty
low level, unfamiliar, high level, to unite

VII. Give appropriate definition of the following terms:

1. programming languages
2. Assembly Language
3. Cobol
4. Algol
5. Basic

VIII. Give the situation from the text in which the following words and expressions are used:

1. for over 40 years
2. slow, awkward process
3. three general categories
4. a large amount of direct control
5. machine-dependent
6. to develop operating systems and their components
7. combine several machine language instructions
8. a set of statements
9. a few code instructions
10. write code efficiently

IX. Answer the questions:

1. How were the first computers programmed?
2. What is an example of assembly language?
3. What does the term machine-dependent mean?
4. What is an assembly language primary used for?
5. What is a high-level language?
6. What does it combine?
7. What is a statement/syntax?
8. When was FORTRAN created? What is Fortran?
9. When was Cobol created? What is Cobol?
10. How many sections are Cobol separated into?
11. What is Algol (when was it developed and for what)?
12. What is Basic?
13. What are major categories of Basic?

ПРАКТИЧЕСКОЕ ЗАНЯТИЕ №16

Тема: Портативные компьютеры в сопоставлении с настольными компьютерами

Ведущая дидактическая цель: формирование у обучающихся представления о портативных компьютерах в сопоставлении с настольными компьютерами. Формирование навыков монологической речи.

Формируемые ОК/умения: ОК 01. Выбирать способы решения задач профессиональной деятельности применительно к различным контекстам; ОК 02. Использовать современные средства поиска, анализа и интерпретации информации и информационные технологии для выполнения задач профессиональной деятельности; ОК 04. Эффективно взаимодействовать и работать в коллективе и команде; ОК 09. Пользоваться профессиональной документацией на государственном и иностранном языках.

Учебные материалы: учебник, бланки с заданиями, презентация

Характер выполнения работы: Словесный, наглядный, продуктивный

Форма организации занятия: индивидуальная, в малых группах

Задания для практического занятия:

I. Look up in the dictionary how to pronounce the following words. Write them down in the dictionary.

| | | | |
|-----------------|-----------|--------------|-------------------|
| interchangeably | a portion | a decoder | a bistable device |
| to retrieve | a flow | timing marks | an adder |
| a reference | a counter | a bank | |

II. Read the text and do the exercises that follow it.

The Central Processing Unit and Arithmetical Logical Unit (CPU and ALU)

It is common practice in computer science for the words 'computer' and 'processor' to be used interchangeably. More precisely, 'computer' refers to the central processing unit (CPU) together with an internal memory. The internal memory, control and processing components make up the heart of the computer system. Manufacturers design the CPU to control and carry out basic instructions for their particular computer.

In digital computers the CPU can be divided into two functional units called the control unit (CU) and the arithmetical-logical unit (ALU). These two units are made up of electronic circuits with millions of switches that can be one of two states, either on or off.

The function of the control unit within the central processor is to transmit coordinating control signals and commands. The control unit is that portion of the computer that directs the sequence or step-by-step operation of the system, selects instructions and data from memory, interprets the program instructions, and controls the flow between main storage and the arithmetical-logical unit.

A control unit has the following components:

- a) a counter that selects the instructions, one at a time, from the memory;
- b) a register that temporarily holds the instruction read from memory while it is being executed;
- c) a decoder that takes the called instruction and breaks it down into individual commands necessary to carry it out;
- d) a clock, which while not a clock in the sense of a time-keeping device, does produce marks at regular intervals.

This timing marks are electronic and very rapid.

The arithmetical-logical unit (ALU) is that portion of the computer in which the arithmetical operations, namely, addition, subtraction, multiplication, division and exponentiation, called for in the instructions are performed.

Programs and the data on which the control unit and the ALU operate, must be in internal memory in order to be processed. Thus, if located on secondary memory devices such as disks or tapes, programs and data are first loaded into internal memory.

The primary components of the ALU are banks of bistable devices, which are called register. Their purpose is to hold the numbers involved in the calculation and hold the result temporarily until they can be transferred to memory.

At the core of the arithmetical-logical unit is a very high-speed binary adder, which is used to carry out at last the four basic arithmetical functions (addition, subtraction, multiplication and division).

Typical modern computers can perform as many as one hundred thousand additions of pairs of thirty-two binary numbers within a second.

The logical unit consists of electronic circuitry, which compares information and makes decisions based upon the result of the comparison. The decisions that can be made are whether a number is greater than, equal to, or less than another number.

III. Find English equivalents in the text:

1. более точно
2. внутренняя память
3. управлять и обрабатывать
4. сердце компьютерной системы
5. выполнять основные инструкции
6. миллионы переключателей
7. передавать контрольные сигналы
8. часть компьютера
9. счетчик, который выбирает инструкции
10. временно удерживать
11. переделывать (переводить) инструкции в индивидуальные команды
12. устройство, которое показывает время
13. возведение в степень
14. загружать
15. сравнение

IV. Give Russian equivalents to the following words and expressions:

1. common practice
2. to be used
3. manufactures design the CPU
4. can be divided into two functional units
5. are made up of electronic circuits
6. to transmit coordinating control signals
7. the sequence or step-by-step operation
8. to interpret the program instructions
9. the flow between main storage and the ALU
10. one at a time
11. is being executed
12. rapid
13. in order to be processed
14. secondary memory device
15. involved
16. within a second

V. Give the situations from the text in which the following words and expressions are used:

- | | |
|-------------------------------------|----------------------------|
| 1. the words computer and processor | 6. located |
| 2. the internal memory | 7. first loaded |
| 3. the function of control unit | 8. primary components |
| 4. components | 9. high-speed binary adder |
| 5. the arithmetical-logical unit | 10. electronic circuitry |

VI. Fill in the blanks necessary words and prepositions:

1. More precisely, 'computer' refers the central processing unit.
2. The CPU can also information from memory and can the result of manipulations back into unit later reference.

3. The control unit is that portion of the computer that the sequence operations of the system, selects and data memory and controls the flow main storage and the ALU.
4. Programs and the data on which the control unit and the ALU operate, must be in to be processed.
5. At the core of the arithmetical-logical unit is a very high-speed.
6. Modern computers can more than one hundred thousand additions thirty-two bits within a second.
7. It is common practice in computer science the words 'computer' and 'processor' to be used.

VII. Find in the text synonyms to the following words:

to define, to put in, to order, among, choice
to be situated, to fulfill, main, couple, part

VIII. Find in the text antonyms to the following words:

external, to join, secondary, particular, unchangeable, to take
to give, permanently, unnecessary, irregular, more, original

IX. Answer the following questions:

1. Where does the word 'computer' refer to?
2. How can the CPU in digital computers be divided?
3. What is the function of the control unit?
4. What components has a control unit?
5. What is the arithmetical-logical unit?
6. Where are programs and data first loaded?
7. What are the primary components of the ALU?
8. What can modern computers perform?

X. Retell the text in English.

ПРАКТИЧЕСКОЕ ЗАНЯТИЕ №17

Тема: Всемирная паутина. Краткая история развития сети Internet.

Ведущая дидактическая цель: формирование у обучающихся навыка монологической и диалогической речи.

Формируемые ОК/умения: ОК 01. Выбирать способы решения задач профессиональной деятельности применительно к различным контекстам; ОК 02. Использовать современные средства поиска, анализа и интерпретации информации и информационные технологии для выполнения задач профессиональной деятельности; ОК 04. Эффективно взаимодействовать и работать в коллективе и команде; ОК 09. Пользоваться профессиональной документацией на государственном и иностранном языках.

Учебные материалы: учебник, бланки с заданиями, презентация

Характер выполнения работы: Словесный, наглядный, продуктивный

Форма организации занятия: индивидуальная, в малых группах

Задания для практического занятия:

INTRODUCTION TO THE 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 (e-mail), 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 1996 there were more than 20 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.

Just a little bit of exploring the World Wide Web will show you what a lot of use and fun it is.

Vocabulary:

World Wide Web — «Всемирная Паутина»

to retrieve — извлекать

variety — разнообразие, спектр

recreation — развлечение

network — сеть

to share — делить

humanities — гуманитарные науки

business transactions — коммерческие операции

access — доступ

to browse — рассматривать, разглядывать

browser — браузер (программа поиска информации)

to provide — обеспечивать (чем-либо)

provider — провайдер (компания, предоставляющая доступ к телефонным сетям)

WWW через местные

broadcast live — передавать в прямом эфире

site — страница, сайт

to link — соединять

hyperlink — гиперссылка

to compete — соревноваться

General understanding:

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 Web browser?

5) What does a 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?

Exercise 1. Which of the listed below statements are true/false. Specify your answer using the text.

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 forecasts.

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.
- They're not available yet.

Exercise 2. Define the following using the vocabulary:

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

Exercise 3. Find the equivalents:

- 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 Интернет и обменивающихся информацией в одном режиме.
- 6) Пользователи общаются через электронную почту, дискуссионные группы, чат-каналы (многоканальный разговор в реальном времени) и другие средства информационного обмена.

Exercise 4. Match the following:

- 1) You access the information through one interface or tool called a...
- 2) People connected to the WWW through the local... have access to a variety of information.
- 3) The user doesn't need to know where the site is, the... follows the...
- 4) In 1996 there were more than 20 million users of the...
- 5) Each... provides a graphical interface.
- 6) Local... charge money for their services to access... resources.

Words to match with:

- 1) web browser, providers, link, WWW,

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Критерии оценки практических занятий:

Оценку «5» - получает обучающийся, если его устный ответ, письменная работа, практическая деятельность в полном объеме соответствует учебной программе, допускается один недочет, объем ЗУНов составляет 90-100% содержания (правильный полный ответ, представляющий собой связное, логически последовательное сообщение на определенную тему, умения применять определения, правила в конкретных случаях. Обучающийся обосновывает свои суждения, применяет знания на практике, приводит собственные примеры).

Оценку «4» - получает обучающийся, если его устный ответ, письменная работа, практическая деятельность или ее результаты, в общем, соответствуют требованиям учебной программы, но имеются одна или две негрубые ошибки, или три недочета и объем ЗУНов составляет 70-90% содержания (правильный, но не совсем точный ответ).

Оценку «3» - получает обучающийся, если его устный ответ, письменная работа, практическая деятельность и ее результаты в основном соответствуют требованиям программы, однако имеется: 1 грубая ошибка и два недочета, или 1 грубая ошибка и 1 негрубая, или 2-3 грубых ошибки, или 1 негрубая ошибка и три недочета, или 4-5 недочетов. Обучающийся владеет ЗУНами в объеме 40-70% содержания (правильный, но не полный ответ, допускаются неточности в определении понятий или формулировке правил, недостаточно глубоко и доказательно ученик обосновывает свои суждения, не умеет приводить примеры, излагает материал непоследовательно).

Оценку «2» - получает обучающийся, если его устный ответ, письменная работа, практическая деятельность и ее результаты частично соответствуют требованиям программы, имеются существенные недостатки и грубые ошибки, объем ЗУНов обучающегося составляет менее 40% содержания.

2.2. Задания для промежуточной аттестации

Задание 5

Задания для дифференцированного зачета

Дифференцированный зачет по дисциплине состоит из двух этапов формы контроля: первый этап дифференцированного зачета – теоретический вопрос; второй этап дифференцированного зачета – задание практического характера.

Последовательность и условия выполнения задания

В первую очередь выполняется первый этап дифференцированного зачета, после успешного выполнения которого, начинается выполнение практического задания.

Максимальное время выполнения задания – 30 мин.

Вариант-1.

Часть 1.

Теоретические вопросы по грамматике (1 вопрос в каждом листе с заданиями к экзамену):

1. Употребление артикля с именами собственными, названиями стран и материков, с названиями городов, именами и фамилиями.
2. Число.
3. Образование формы 3-го лица ед.ч. настоящего времени группы Indefinite. Причастие. Настоящее время группы **Perfect**.
4. Прошедшее время группы Indefinite неправильных глаголов.
5. Обороты **There are ...**, **There is ...**
6. Модальные глаголы: **may**, **must**, **can**.
7. Согласование времен в сложных предложениях.
8. Прилагательное. Степени сравнения.
9. Выражение просьбы и приказания.
10. Порядок слов в простом повествовательном предложении.
11. Неопределенные местоимения.
12. Выражение долженствования в английском предложении.
13. Неправильные глаголы.

Письменное тестовое задание по грамматике.

Прочитайте внимательно задания и выберите правильный ответ.

1. The Statue of Liberty ... by Gustave Eiffel.
a) design c) was designed b) designed d) have been designed
2. Where are your brothers? - They ... a swimming-pool in our garden.
a) are digging c) were digging b) dig d) have been digging
3. How do your parents like their new house? - My mother likes it, but my father ... our old one.
a) miss c) missed b) misses d) doesn't miss
4. I didn't believe that you ... short of money.
a) are c) were b) is d) have been
5. Actually it's a very friendly dog. If you ... it, it won't bite you.
a) won't touch c) didn't touch b) haven't touched d) don't touch
6. The town of Kestwick, which ... at the heart of the Lake District, is the perfect place for a holiday.
a) laid c) is lying b) lies d) lay

7. We ... forward to a concert in our town. It is next Sunday.
a) looks c) are looking b) looked d) were looking
8. The picture, which ... lately, is worth thousands of pounds.
a) damage c) has been damaged b) damaged d) was damaged
9. The scientist who ... a new planet has won the Nobel Prize.
a) had discovered c) has been discovered b) discovered d) was discovering
10. ... we have something to eat? - Yes, but not here.
a) will c) do b) would d) shall
11. My mother always moves my books around so I ... find them.
a) can't c) wasn't able b) couldn't d) may not
12. I don't like the cafes that don't have chairs and people ... eat standing up.
a) can c) may b) could d) have to
13. There is a big hotel in the middle of ... park.
a) a c) - b) the d) these
14. ... towns which attract tourists are usually crowded in summer.
a) - c) a b) the d) this
15. Be sure to pick ... tomatoes before they get too ripe.
a) this c) much b) that d) these
16. I suppose people are spending now ... money than they used to.
a) much c) fewer b) many d) more
17. Was it exciting buying a car? - Well, it was a bit of a problem because I didn't have ...
money to spend.
a) many c) most b) much d) few
18. Once I hated flying, but now I feel ... nervous about it.
a) most c) less b) least d) little
19. The trouble ... my father is that he never relaxes.
a) of c) about b) with d) out
20. What did you buy this computer magazine ...? - To read about business software.
a) at c) on b) in d) for
21. Someone is calling you. Will you answer ... phone?
a) a c) - b) the d) these
22. To tell the truth I don't like ... pair of trousers that I bought last month.
a) those c) that b) this d) a
23. Whose house is it? - It's
a) my c) her b) mine d) our

24. Today is ... cold than yesterday. So, I'm wearing my shorts.

a) little c) least b) less d) the least

25. "Come home ... Christmas Day, we'll be waiting for you", my mother always says to me.

a) in c) - b) on d) at

Ключ:

1) c; 2) a; 3) b; 4) c; 5) d; 6) b; 7) c; 8) c; 9) b; 10) d; 11) a; 12) d; 13) b; 14) a; 15) d; 16) d; 17) b; 18) c; 19) b; 20) d.; 21) b; 22) c; 23) b; 24) b; 25) b.

Часть 2.

Прочитайте внимательно и переведите данный текст. Выполните задания по данному тексту.

Computer Memory

Software gives instructions that tell computers what to do. There are two kinds of software. The first is System Software and includes programs that run the computer system or that aid programmers in performing their work. The second kind of software is Application Software, which directs the computer to perform specific tasks that often involve the user.

Memory is the general term used to describe a computer system's storage facilities. Memory's job is to store the instruction or programs and data in the computer. Memory can be divided into two major categories: 1. main memory, 2 auxiliary storage. Main memory is also called main storage, internal storage or primary storage and is a part of the CPU. Main memory is usually on chips or a circuit board with the other two components of the CPU. RAM for Random Access Memory, is the storage area directly controlled by the computer's CPU. Main Memory assists the control unit and the ALU by serving as a repository for the program being executed and for data as it passes through. RAM or Volatile memory so called because its contents are replaced when new instructions and data are added, or when electrical power to the computer is shut off. RAM is read-write memory, in that it can receive or read data and instructions from other sources such as auxiliary storage.

Another type of memory is ROM or Read Only Memory. ROM holds instructions that can be read by the computer but no written over. ROM is sometimes called firmware because it holds instructions from the firm or manufacturer.

Auxiliary storage, also called auxiliary memory or secondary storage, is memory that supplements main storage. This type of memory is long-term, Nonvolatile Memory. Nonvolatile means that computer is turned off or on.

Fill in the blanks necessary words:

1. gives instructions that tell computers what to do.
2. directs the computer to perform specific tasks that often involve the user.
3. Memory's job is to store
4. can be divided into two main categories.
5. Main memory is usually on
6. is read-write memory.
7. holds instructions that can be read by the computer but no written over.
8. is memory that supplements main storage.
9. means that the computer is turned off or on.

Прочитайте внимательно и переведите данный текст. Выполните задания по данному тексту.

An Application Program is a software program that performs a specific function, such as accounting, word processing or drafting. There are some categories of application program to choose from spreadsheet, Database Management, Computer Aided Design (CAD), Communications, Graphic presentations, desktop Publishing, Integrated Programs, Window and Windows – based Programs. Within each category, there are several software programs which have gained industry-wide acceptance.

Word processing: is the most common application for a personal computer. Most word processing software programs allow us to create, edit, and save documents, along with changing the position of the text in a document, inserting new information in the middle of the text, or removing words and sections no longer needed. With a typewriter, you would have to re-type the entire document after a few major changes. Given a computer, a document can be stored electronically and retrieved at any time for modification.

Examples of word processing programs include: – Word Perfect; –MS-Word; –Multimate; –Wordstar; –Displaywrite; –Word for Windows; –Word Perfect for Windows.

Accounting and spreadsheets: One of the primary functions of the first mainframe computers was to store and calculate volumes of financial data for banks and large businesses. Nowadays, a personal computer is capable of handling the accounting and finances of almost any small to medium-sized business. Many different programs are available for plotting financial trends and performing everyday bookkeeping functions. One of the most popular financial tools is called a spreadsheet. An electronic spreadsheet is a software program, which performs mathematical calculations and ‘want – if’ analysis. Besides replacing your pencil and calculator for solving financial and statistical problems, spreadsheets can display line graphics, bar charts, and scatter plot diagrams. Often accounting and spreadsheet programs are designed to work together, in efforts to provide the financial solution.

Examples of accounting programs include: ACCPAC Simply Accounting, ACCPAC plus, Business Vision Turbo, New Views Accounting, Great Plains, Dac Easy, Peach Tree, Abacus II.

Examples of spreadsheet programs include: Lotus 1-2-3, MS-Exel, Quatro Pro, Supercalc.

Database Management. A database is a simply collection of related information. Some common examples are a phone book, an inventory list, a personal file. A Database Management Software program assists in manipulating and organizing the information in a database. A database application is any task ordinarily handled by a filing cabinet, multiply file folders, or some other information storage system. In a manual system, for example, each drawer in filing cabinet is reserved for a specific purpose, such as maintaining profile sheets on customers. Each profile is written on a standard form and a clerk places the file folder in the drawer. This manual process is identical to a computerized database, where the database software performs the function of the filing clerk. Rather than placing the customer profiles in the filing cabinet drawer, a computerized database stores each profile electronically on a disk.

Some examples of a database management programs: Dbase, R:BASE, Paradox, FoxPro, Q&A, Oracle.

Computer Aided Design. Computers are the perfect tools for creating drawing or architectural plans. Because the drawings can be saved, it is easy to incorporate modifications, design improvements and corrections. Computers are often used on the final process of converting a computer drawing into a physical product. One such example is the manufacturing of electronic circuit boards. First, the electronic circuit drafting program produces the schematic design, then a second program tests the design by simulating the circuit’s operation, and finally a third program constructs the circuit board from the design layout.

Computer Aided Design programs are: AutoCAD, TANGO, PCAD, Generic CAD.

Communications: Computers can communicate with each other via regular telephone lines and modems. Communication software programs enable different types of computers to exchange data using a common language. The IBM PC can actually emulate various types of equipment, around the world, with the help of software. Communication programs are: Smartcom, Kermit, Crosstalk, PC Talk, Pro Comm, PC Anywhere, CloseUp.

Graphic Presentations: There are actually some people, who prefer to look at 14 columns of numbers across several pages for analyzing a business’ performance. These people are called accountants. However, most people are visual learners of diagrams, graphs and charts for representing numerical trends. There are a variety of programs for displaying information graphically: –Lotus 1-2-3, Exel, Quatro Pro, Chartmaster, Chart, Harvard Graphics, Micrografix Powerpoint, DrawPerfect.

Desktop Publishing is the process of taking a document and inserting graphics and applying enhanced formatting options. These programs take text from the more common word processor and

produce print-shop quality output. Desktop publishing programs are used to create newsletters, brochures, reports, book and other publications.

Desktop publishing programs include: Aldus PageMaker, Ventura Publisher, AMI Professional. Integrated Programs: they unite one or more of the primary computer applications, whether word processing, spreadsheet or database into a single package. These programs allow people to experiment with the major computer applications, while only investing in a single product. The most popular integrated programs are: –MS-Works, Q&A, Eight in one, Symphony, Framework.

Microsoft Windows. Windows is a program, which enhances many aspects of using a microcomputer. It provides a graphical user interface (GUI and pronounced «Gooney») for programs running under the Windows environment. In other words, Windows allows a person to use a mouse and choose special symbols to point at and select desired functions, rather than having to remember commands. As well Windows' products allow a WYSIWYG ('what you see is, what you get') screen display, especially important for word processing and desktop publishing programs.

Here are some examples of Window – based products:

1. Word Perfect for Windows (word processing).
2. MS-Word for Windows (word processing).
3. MS-Excel for Windows (spreadsheet).
4. Aldus Page Maker (desktop publishing).
5. AMI Professional (word processing).
6. ACCPAC Simply Accounting (accounting).

Translate these into your own language:

1. software program
2. application program
3. industry-wide acceptance
4. along with changing the position
5. no longer needed
6. to re-type the entire document
7. calculate volumes of financial data
8. bookkeeping functions
9. to assist in manipulating and organizing the information
10. perfect tools
11. program tests the design
12. emulate various types
13. select desired functions

Прочитайте внимательно и переведите данный текст. Выполните задания по данному тексту

Programming has been with us for over 40 years but it wasn't born at the time as the first computers. When the first early computers were built, there were no programming languages. First machines were initially programmed by flipping toggle switches and changing cables. Needless to say, this was a slow, awkward process. People began quickly searching for a better, faster way to issue instructions to the computer.

The result was what we call Programming Languages. The programming languages fall into three general categories. They are comprised of ones and zeros, and are directly understood or executed by hardware. Electronic circuitry turns these 0s and 1s into the operations the computer performs.

Assembly Languages are powerful programming tools because they allow programmers a large amount of direct control over the hardware. They offer programmers greater ease in writing instructions but preserve the programmer's ability to declare exactly what operations the hardware performs. Assembly languages are machine-specific, or machine-dependent. Machine-dependent

means the instructions are specific to one type of computer hardware. Assembly languages are still provided by most computer manufacturers – they can't be translated and used on another computer.

Assembly code for a Prime mini won't work on a Digital mini. Assembly code can't even be transferred between some machines built by the same manufacturer. For the most part, assembly languages are used by systems programmers to develop operating systems and their components.

So Assembly languages were the first bridge between the English Language and the computer's binary language. The creation of high-level programming languages followed. A high-level language is a language in which each instruction or statement correspond to several machine code instructions.

As high-level languages are a method of writing programs using Englishlike words as instructions, they allow users to write in a notation with which they are familiar, e.g., Fortran in mathematical notation, Cobol in English.

High-level programming languages combine several machine language instructions into one high-level instruction. Low-level languages required only a single letter or a short mnemonic a term, or a word that is easy to identify, such as ADD for addition. High-level language requires just a single statement.

A Statement is an expression of instruction in a programming language. For example, PRINT FILE, TXT is a statement. A statement translates into one or more instructions at the machine language level. Each programming language includes a set of statement and a syntax. Syntax is the set of rules governing the language's structure and statements. The syntax rules may include how statements are written, the order in which statements occur, and how sections of programs are organized.

FORTRAN was created in 1954 by John Backus. And it was one of the first high-level languages for FORMular TRANslator. Fortran allows programmers to calculate complex formulas with a few source code instructions. It is used for scientific and mathematical problems. The source program is written using combination of algebraic formulas and English statements of a standard but readable form.

Another high-level machine language is Cobol. Cobol was developed by the Conference on Data Systems Languages. Cobol was issued by the US Government Printing Office in 1960. Cobol stands for Common Business-Oriented Language. The source program is written using statements in English. It was made for business industry, government and education applications. This means that Cobol «has a place for everything» and requires programmers to «put everything in its place». Cobol programs are separated into four sections, called divisions:

1. The Identification Division (раздел идентификации) documents the program name, the programmer's name (s), dates and any other important identification information.
2. The Environment Division (раздел оборудования) names the computer hardware, including the CPU and I/O devices.
3. Data Division (раздел данных) identifies all associated files and working storage sections of the program.
4. The Procedure Division contains all the instructions in the Cobol program.

Cobol divisions are further divided into paragraphs and sections. This structure helps programmers write code efficiently and with a minimum of repetition and confusion.

Algol was developed as an international language for the expression of the algorithms between individuals, as well as programming language. It was introduced in the early 1960s. Algol stands for ALGORithmic Language. This language is used for mathematical and scientific use. An Algol program consists of data items, statements and declarations, organized into a program structure BASIC or the Beginners AU-purpose Symbolic Instruction Code, was developed over a period of years by professors John Kemeny and Thomas Kurtz and students in the computer science program at Dartmouth College. It was released in 1965. In most versions, BASIC is an unstructured language. The original Basic was easy to learn allowing computer users to write simple programs within a few minutes.

Basic uses five major categories of statements:

- Arithmetical statements allow users to use Basic like a calculator
- Input/ Output statements, including READ, DATA, INPUT and PRINT
- Control statements including GOTO, IF-THEN, FOR, NEXT and END control the sequence of instructions executed by the computer

- Other statements help document Basic programs and set up data dimensions respectively
 - System Commands tell the operating system how to work with Basic programs
- RUN means execute a program
LIST directs the computer to display a Basic program.

Fill in the gaps necessary words or expressions:

1. First machines were by flipping toggle switches and
2. The programming languages fall into
3. They are comprised of and
4. are powerful programming tools.
5. Machine-dependent means
6. A high-level language is a language in which
7. is an expression of instruction in a programming language.
8. allows programmers to calculate complex formulas with a few source code instructions.
9. stands for ALGOrithmic Language.
10. Basic uses

Прочитайте внимательно и переведите данный текст. Выполните задания по данному тексту

It is common practice in computer science for the words ‘computer’ and ‘processor’ to be used interchangeably. More precisely, ‘computer’ refers to the central processing unit (CPU) together with an internal memory. The internal memory, control and processing components make up the heart of the computer system. Manufacturers design the CPU to control and carry out basic instructions for their particular computer.

In digital computers the CPU can be divided into two functional units called the control unit (CU) and the arithmetical-logical unit (ALU). These two units are made up of electronic circuits with millions of switches that can be one of two states, either on or off.

The function of the control unit within the central processor is to transmit coordinating control signals and commands. The control unit is that portion of the computer that directs the sequence or step-by-step operation of the system, selects instructions and data from memory, interprets the program instructions, and controls the flow between main storage and the arithmetical-logical unit.

A control unit has the following components:

- a) a counter that selects the instructions, one at a time, from the memory;
- b) a register that temporarily holds the instruction read from memory while it is being executed;
- c) a decoder that takes the called instruction and breaks it down into individual commands necessary to carry it out;
- d) a clock, which while not a clock in the sense of a time-keeping device, does produce marks at regular intervals.

This timing marks are electronic and very rapid.

The arithmetical-logical unit (ALU) is that portion of the computer in which the arithmetical operations, namely, addition, subtraction, multiplication, division and exponentiation, called for in the instructions are performed.

Programs and the data on which the control unit and the ALU operate, must be in internal memory in order to be processed. Thus, if located on secondary memory devices such as disks or tapes, programs and data are first loaded into internal memory.

The primary components of the ALU are banks of bistable devices, which are called register. Their purpose is to hold the numbers involved in the calculation and hold the result temporarily until they can be transferred to memory.

At the core of the arithmetical-logical unit is a very high-speed binary adder, which is used to carry out at last the four basic arithmetical functions (addition, subtraction, multiplication and division).

Typical modern computers can perform as many as one hundred thousand additions of pairs of thirty-two binary numbers within a second.

The logical unit consists of electronic circuitry, which compares information and makes decisions based upon the result of the comparison. The decisions that can be made are whether a number is greater than, equal to, or less than another number.

Find English equivalents in the text:

1. более точно
2. внутренняя память
3. управлять и обрабатывать
4. сердце компьютерной системы
5. выполнять основные инструкции
6. миллионы переключателей
7. передавать контрольные сигналы
8. часть компьютера
9. счетчик, который выбирает инструкции
10. временно удерживать
11. переделывать (переводить) инструкции в индивидуальные команды
12. устройство, которое показывает время
13. возведение в степень
14. загружать
15. сравнение

Прочитайте внимательно и переведите данный текст. Выполните задания по данному тексту

Many people have or will have had some experience of ‘conversing’ with computers. They may have their own micro-computer, they may use a terminal from the main company at work or they may have a television set with a view data facility. Those who do not have this experience may observe the staff at, for example, an airline check-in or a local bank branch office sitting at their desks, pressing keys on a typewriter like a keyboard and reading information presented on a television type screen. In such a situation the check-in clerk or the branch cashier is using the computer to obtain information (e.g. to find out if a seat is booked) or to amend information (e.g. to change a customer’s name and address).

The word computer conjures up different images and thoughts in people’s mind depending upon their experiences. Some view computers as powerful, intelligent machines that can maintain a ‘big brother’ watch over everyone. Others are staggered and fascinated by the marvels achieved by the space programs of the superpowers, where computers play an important part.

Numerous factories use computers to control machines that make products. A computer turns the machines on and off and adjusts their operations when necessary. Without computers, it would be impossible for engineers to perform the enormous number of calculations needed to solve many advanced technological problems. Computers help in the building of spacecraft, and they assist flight engineers in launching, controlling and tracking the vehicles. Computers also are used to develop equipment for exploring the moon and planets. They enable architectural and civil engineers to design complicated bridges and other structures with relative ease.

Computers have been of tremendous help to researchers in the biological, physical and social sciences. Chemists and physicists rely on computers to control and check sensitive laboratory instruments and to analyze experimental data. Astronomers use computers to guide telescopes and to process photographic images of planets and other objects in space.

Computers can be used to compose music, write poems and produce drawings and paintings. A work generated by a computer may resemble that of a certain artist in birth style and form, or it may appear abstract or random. Computers are also used in the study of the fine arts, particularly, literature. They have also been programmed to help scholars identify paintings and sculptures from ancient civilizations.

But computers do not have intelligence in the way humans do. They cannot think for themselves. What they are good at is carrying out arithmetical operations and making logical decisions at phenomenally fast speed. But they only do what humans program gives them to do.

Apart from the speed at which computers execute instruction, two developments in particular have contributed to the growth in the use of computers – efficient storage of large amounts of data and diminishing cost. Today, computers can store huge amount of information on magnetic media and any item of this information can be obtained in a few milliseconds and displayed or printed for the user.

Translate these into your own language:

- | | |
|------------------------------------|-----------------------------------|
| 1. some experience of conversing | 8. advanced technological problem |
| 2. view data facility | 9. to guide telescopes |
| 3. to obtain information | 10. ancient civilization |
| 4. powerful, intelligent machine | 11. arithmetical operations |
| 5. to be straggled and fascinated | 12. logical decisions |
| 6. to adjust operations | 13. to execute instructions |
| 7. enormous number of calculations | 14. efficient storage |

Прочитайте внимательно и переведите данный текст. Выполните задания по данному тексту

What is a Computer?

A computer is a machine with an intricate network of electronic circuits that operate switches or magnetize tiny metal cores. The switches, like the cores, are capable of being in one of two possible states, that is, on or off; magnetized.

The machine is capable of storing and manipulating numbers, letters and characters.

The basic idea of a computer is that we can make the machine do what we want by inputting signals that turn certain switches on and turn others off, or that magnetize or do not magnetize the cores.

The basic job of computers is the processing of information. For this reason, computers can be defined as devices which accept information in the form of instructions called a program and characters called data performing mathematical and logical operations on the information, and then supply results of these operations.

The program or a part of it, which tells the computers what to do and the data, which provide the information needed to solve the problem, are kept inside the computer in a place called memory.

Computers are thought to have many remarkable powers. Most computers, whether large or small have three basic capabilities.

First, computers have circuits for performing arithmetical operations, such as: addition, subtraction, division, multiplication and exponentiation. Second, computers have means of communicating with the user. If we couldn't feed information in and get results back these machine wouldn't be of much use.

However, certain computers (commonly minicomputers and microcomputers) are used to control directly things such as robots, aircraft navigation systems, medical instruments, etc. Some of the most common methods of inputting information are to use terminals, diskettes, disks and magnetic tapes.

The computer's input device (which might be a disk drive depending on the medium used in inputting information) reads the information into the computer. For outputting information, two common devices are used a printer which prints the new information on paper, or a cathode-raytube (CRT) display screen which shows the results on a TV-like a screen. Third, computers have circuits which can make decisions. The kinds of decisions which computer circuits can make are not of the type: 'Who would win a war between two countries?' or 'Who is the richest person in the world?' Unfortunately, the computer can only decide three things, namely: 'Is one number use more often than another?' 'Are two numbers equal?' and, 'Is one number greater than another?'

A computer can solve a series of problems and make hundreds even thousands of logical operations without becoming tired or bored. It can find the solution to a problem in a fraction that it

takes a human being to do the job. A computer can replace people in dull routine, but it has no originality, it works according to the instructions given to it and cannot exercise value judgements.

There are times when a computer seems to operate like a mechanical «brain», but its achievements are limited by the minds of human beings. A computer cannot do anything unless a person tells it what to do and gives the appropriate information, but because of electric pulses can move at the speed of light, a computer can carry out vast numbers of arithmetical-logical operations almost instantaneously.

A person can do the same, but in many cases that person would be dead long before the job was finished.

Translate these into your own language:

- | | |
|----------------------------------|--------------------------------|
| 1. an intricate network | 9. an input device |
| 2. tiny metal cores | 10. for outputting information |
| 3. by inputting signals | 11. a decision |
| 4. the processing of information | 12. to replace |
| 5. to define | 13. appropriate |
| 6. to provide | 14. to carry out |
| 7. to solve | 15. vast |
| 8. memory | |

Прочитайте внимательно и переведите данный текст. Выполните задания по данному тексту

Let us take a look at the history of the computers that we know today. The very first calculating device used was the ten fingers of a man's hands. This, in fact, is why today we count in tens and multiply of tens. Then the abacus was invented, a bead frame in which the beads are moved from left to right. People went on using some form of abacus well into the 16th century, it is being used in some parts of the world because it can be understood without knowing how to read.

During the 17th and 18th centuries many people tried to find easy ways of calculating. J. Napier, a Scotsman, devised a mechanical way of multiplying and dividing, which is how the modern slide rule works. Henry Briggs used Napier's ideas to produce logarithm which all mathematicians used today.

Calculus, another branch of mathematics, was independently invented by both Sir Isaac Newton, an Englishman, and Leibnitz, a German mathematician. The first real calculating machine appeared in 1820 as the result of several people's experiments. This type of machine, which saves a great deal of time and reduces the possibility of making mistakes, depends on a ten-toothed gear wheels.

In 1830 Charles Babbage, an Englishman, designed a machine that was called 'The Analytical Engine'. This machine, which Babbage showed at the Paris Exhibition in 1855, was an attempt to cut out the human being altogether, expert for providing the machine with the necessary facts the problem to be solved. He never finished this work, but many of his ideas were the basis for building today's computers.

In 1930, the first analog computer was built by American named Vannevar Bush. The device was used in World War II to help aim guns. Mark I, the name given to the first digital computer, was completed in 1944. The men responsible for this invention were Professor Howard Aiken and some people from IBM. This was the first machine that could figure out long of mathematical problems all at a very fast speed.

In 1946 two engineers at the University of Pennsylvania, J. Eckert and J. Mauchly, built the first digital computer using parts called vacuum tubes. They named their new invention UNIVAC. The first generation of computers, which used vacuum tubes, came out in 1950. UNIVAC I was an example of these computers which could perform thousand of calculations per second.

In 1960, the second generation of computers was developed and could perform work ten times faster than their predecessors. The reason for this extra speed was the use of transistors instead of vacuum tubes. Second generation computers were smaller, faster and more dependable than first generation computers.

The third-generation computers appeared on the market in 1965. These computers could do a million calculations a second, which is 1000 times faster than the first generation computers. Unlike second-generation computers, these are controlled by tiny integrated circuits and are consequently smaller and more dependable.

Fourth-generation computers have now arrived, and the integrated circuits that are being developed have been greatly reduced in size. This is due to microminuturization, which means that the circuits are much smaller than before; as many as 1000 tiny circuits now fit onto a single chip. A chip is a square or rectangular piece of silicon, usually from 1/10 to ¼ inch, upon which several layers of an integrated circuit are attached or imprinted, after which the circuit is encapsulated in plastic metal. Fourth generation computers are 50 times faster than third-generation computers and can complete approximately 1.000.000 instructions per second.

Translate from English into Russian:

- | | |
|--------------------------------------|------------------------------|
| 1. the very first calculating device | 7. first digital computer |
| 2. to count in tens | 8. to figure out |
| 3. to multiply of tens | 9. ten times faster |
| 4. without knowing | 10. extra speed |
| 5. to be independently invented | 11. tiny integrated circuits |
| 6. to save a great deal of time | 12. keeping instruction |

Критерии оценки письменного перевода текста

| Оценки | Критерии оценки |
|--------|---|
| «5» | Коммуникативная задача решена полностью, применение лексики адекватно коммуникативной задаче, грамматические ошибки либо отсутствуют, либо не препятствуют решению коммуникативной задачи |
| «4» | Коммуникативная задача решена полностью, но понимание текста незначительно затруднено наличием грамматических и/или лексических ошибок. |
| «3» | Коммуникативная задача решена, но понимание текста затруднено наличием грубых грамматических ошибок или неадекватным употреблением лексики. |
| «2» | Коммуникативная задача не решена ввиду большого количества лексико-грамматических ошибок или недостаточного объема текста. |

Критерии оценки устных развёрнутых ответов (часть 1 (теория), часть 2)

| Оценки | Взаимодействие с собеседником | Лексический запас | Грамматическая правильность речи | Фонетическое оформление речи |
|--------|--|--|--|--|
| «5» | Адекватная естественная реакция на реплики собеседника. Проявляется речевая инициатива для решения поставленных коммуникативных задач. | Имеется большой словарный запас, соответствующий предложенной теме. Речь беглая. Объем высказываний соответствует программным требованиям. | Лексика адекватна ситуации, редкие грамматические ошибки не мешают коммуникации. | Владеет основными произносительными и интонационными навыками устной речи и техникой чтения. |

| | | | | |
|-----|--|---|--|--|
| «4» | Коммуникация затруднена, речь учащегося неоправданно паузирована. | Имеется достаточный словарный запас, в основном соответствующий поставленной задаче. Наблюдается достаточная беглость речи, но отмечается повторяемость и некоторые затруднения при подборе слов. | Грамматические и/или лексические ошибки заметно влияют на восприятие речи учащегося. | В достаточной степени владеет техникой чтения и основными произносительными и интонационными навыками устной речи. Однако допускает незначительные ошибки в произношении отдельных звуков и интонации иноязычной речи. |
| «3» | Коммуникация существенно затруднена, учащийся не проявляет речевой инициативы. | Имеет ограниченный словарный запас, использует упрощенные лексико-грамматические структуры, в некоторых случаях недостаточные для выполнения задания в пределах предложенной темы. | Учащийся делает большое количество грубых грамматических и/или лексических ошибок. | В недостаточной степени владеет техникой чтения и допускает многочисленные фонетические и интонационные ошибки, что затрудняет понимание речи. |
| «2» | Коммуникативная задача не решена ввиду большого количества лексико-грамматических ошибок или недостаточного объема текста. | Бедный лексический запас, отсутствует какая-либо вариативность в его использовании. | Допускает большое количество грамматических ошибок. Отмечается трудность при выборе правильных глагольных форм и употреблении нужных времен. | Речь неправильная, с большим количеством фонетических и интонационных ошибок. Наблюдаются многочисленные ошибки на правила чтения. |

Условия выполнения задания

1. Место выполнения задания: учебный кабинет
2. Максимальное время выполнения задания: 40 мин