Белорусский национальный технический университет

Факультет технологий управления и гуманитаризации
Кафедра «Иностранные языки»

СОГЛАСОВАНО	СОГЛАСОВАНО
Заведующий кафедрой	Декан факультета
О.В. Веремейчик	Г.М. Бровка
26.11. 2018 г.	27 11 2018 г.

УЧЕБНО-МЕТОДИЧЕСКИЙ КОМПЛЕКС ПО УЧЕБНОЙ ДИСЦИПЛИНЕ

«Иностранный язык (английский)»
для специальности 1-36 21 01
«Дизайн производственного оборудования»

Составители: Кажемская Лилия Леонидовна
Захаренко Татьяна Сергеевна
Пужель Татьяна Викторовна

Рассмотрено и утверждено

На заседании совета факультета технологий управления и гуманитаризации
26.11.2018 г., протокол № 3

Перечень материалов

1. Учебная программа по дисциплине «Иностранный язык (английский)» для специальности 1-36 21 01 «Дизайн производственного оборудования»
2. Теоретическая часть
3. Текстовые материалы с заданиями, направленными на развитие и совершенствование лексических и коммуникативных навыков обучающихся и активное использование тематической лексики в соответствующей предметной области.
4. Блок контроля знаний
5. Приложения

Пояснительная записка

Электронный учебно-методический комплекс по дисциплине «Иностранный язык (английский)» для специальности 1-36 21 01 «Дизайн производственного оборудования» составлен в соответствии с основными положениями Кодекса Республики Беларусь об образовании: от 13 января 2011 г., № 243–3, Концепции обучения иностранным языкам в системе непрерывного образования Республики Беларусь, а также с основными направлениями государственной политики, отраженными в Концепции непрерывного воспитания учащейся молодежи в Республике Беларусь, в плане идеологической и воспитательной работы БНТУ и других государственных программах, нормативно-правовых и инструктивно-методических документах, определяющих приоритетные направления идеологии белорусского государства.

Данный ЭУМК представляет собой программный комплекс по дисциплине «Иностранный язык (английский)», назначение которого состоит в обеспечении непрерывности и полноты процесса подготовки обучающихся к использованию иностранного языка в профессиональной и общественной деятельности; источника информации, необходимой для непосредственной работы по специальности; средства коммуникации с зарубежными партнерами.

Разработанный ЭУМК способствует созданию условий для формирования нравственно зрелой, интеллектуально развитой личности обучающегося, которой присущи социальная и исследовательская активность, гражданская ответственность и патриотизм, приверженность к университетским ценностям и традициям, стремление к профессиональному самосовершенствованию, активному участию в научной, экономической и социально-культурной жизни страны.

Структура электронного учебно-методического комплекса по дисциплине «Иностранный язык (английский)» для специальности 1-36 21 01 «Дизайн производственного оборудования» включает в себя: учебную программу дисциплины, теоретическую и практическую часть, блок контроля знаний, а также некоторые справочные материалы (приложения).

В теоретической части ЭУМКД представлена информация для изучения по учебной дисциплине «Иностранный язык (английский)», в составе которых некоторые грамматические материалы, усвоение которых имеет большое значение для освоения данной учебной дисциплины.

Практическая часть ЭУМКД включает в себя: текстовые материалы и различные лексические и коммуникативные задания, направленные на формирование и развитие речевых умений обучающихся, а также на овладение ими определенной тематической лексикой. В целях мотивированности речевой деятельности при подборе материала учтены интересы студентов, контекст их будущей профессиональной деятельности, что позволило выделить проблемы для обсуждения и номенклатуру лексических единиц.

Блок контроля знаний ЭУМК содержит контрольные тесты для оценки приобретенных грамматических и лексических знаний. Данный блок обеспечивает возможность самоконтроля обучающегося, его текущей и итоговой аттестации.

Результатом курса призвана стать система знаний, умений и навыков, обеспечивающая целостное, системное представление о процессах межкультурной коммуникации в социально-бытовой и профессиональной сферах.

Учебно-методический комплекс по дисциплине «Иностранный язык (английский)» предназначен для обучающихся специальности 1-36 21 01 «Дизайн производственного оборудования», а также преподавателей БНТУ кафедры «Иностранные языки», в целях проведения как аудиторных практических занятий, так и для самостоятельной работы обучающихся.

ОГЛАВЛЕНИЕ

1. ПОГРАММА УЧЕБНОЙ ДИСЦИПЛИНЫ

БЕЛОРУССКИЙ НАЦИОНАЛЬНЫЙ ТЕХНИЧЕСКИЙ УНИВЕРСИТЕТ

УТВЕРЖДАЮ
Декан
факультета технологий управления и гуманитаризации
_____ Г.М. Бровка
28.06.17
Регистрационный № УД-ФТУГ 07-23/р.

ИНОСТРАННЫЙ ЯЗЫК (АНГЛИЙСКИЙ)

Учебная программа учреждения высшего образования по учебной дисциплине для специальности 1-36 21 01 «Дизайн производственного оборудования»

Факультет технологий управления и гуманитаризации

Кафедра «Иностранные языки»

Курс – 1, 2

Семестры – 1, 2, 3

Практические занятия – 136 часов

Аудиторных часов по учебной дисциплине – 136

Всего часов по учебной дисциплине – 268

Экзамен – 3 семестр

Зачет – 1, 2 семестр

Форма получения высшего образования – дневная

Составила: Жук О.С., ст. преподаватель

2013г

Учебная программа составлена на основе типовой учебной программы «Иностранный язык для высших учебных заведений», утв. 15.04.2008 г., рег. № ТД – СГ. 013/тип

Рассмотрена и рекомендована к утверждению кафедрой «Иностранные языки» Белорусского национального технического университета (протокол № 10 от 23 мая 2013 г.)

Заведующий кафедрой _____ О.В. Веремейчик

Одобрена и рекомендована к утверждению методической комиссией факультета технологий управления и гуманитаризации Белорусского национального технического университета
(протокол № 5 от 25 июня 2013 г.)

Председатель методической комиссии _____ Е.Б. Якимович

ПОЯСНИТЕЛЬНАЯ ЗАПИСКА

Учебная программа учреждения высшего образования дисциплины «Иностранный язык» разработана для специальности 1-36-21-01 «Дизайн производственного оборудования».

Главная цель обучения иностранным языкам – формирование коммуникативной компетенции будущего специалиста, позволяющей использовать иностранный язык как средство профессионального и межличностного общения. В процессе достижения главной цели решаются следующие задачи:

• *познавательные*, позволяющие сформировать представление об образе мира как целостной многоуровневой системе (этнической, языковой, социокультурной и т. п.); об уровне материальной и духовной культуры; системе ценностей (религиозно-философских, эстетических и нравственных); особенностях профессиональной деятельности в соизучаемых странах;

• *развивающие*, позволяющие совершенствовать речемыслительные и коммуникативные способности, память, внимание, воображение, формирование потребности к самостоятельной познавательной деятельности и т.д.;

• *воспитательные*, связанные с формированием общечеловеческих, общенациональных и личностных ценностей, таких как: гуманистическое мировоззрение, уважение к другим культурам, патриотизм, нравственность, культура общения;

• *практические*, предполагающие овладение иноязычным общением в единстве всех его *компетенций* (языковой, речевой, социокультурной, компенсаторной, учебно-познавательной), *функций* (этикетной, познавательной, регулятивной, ценностно-ориентационной) и *форм* (устной и письменной).

Все это осуществляется посредством взаимосвязанного обучения всем видам речевой деятельности в рамках определенного программой предметно-тематического содержания, а также овладения технологиями языкового самообразования.

В качестве стратегической интегративной компетенции в обучении иностранным языкам выступает коммуникативная в единстве всех составляющих: – языковой, речевой, социокультурной, компенсаторной, учебно-познавательной компетенций.

Языковая компетенция – совокупность языковых средств (фонетических, лексических, грамматических), а также правил их использования в коммуникативных целях.

Речевая компетенция – совокупность навыков и умений всех видов речевой деятельности (говорение, письмо, аудирование, чтение), знание норм речевого поведения, способность использовать средства языка в речи в соответствии с ситуацией общения.

Социокультурная компетенция – совокупность знаний о национально-культурной специфике стран изучаемого языка и связанных с этим умений корректно строить свое речевое и неречевое поведение.

Компенсаторная компетенция – совокупность умений использовать дополнительные вербальные и невербальные средства решения коммуникативных задач в условиях дефицита имеющихся языковых средств.

Учебно-познавательная компетенция – совокупность общих и специальных учебных умений, необходимых для осуществления самостоятельной деятельности по овладению иностранным языком.

В результате изучения дисциплины студент должен знать:

• особенности системы изучаемого иностранного языка в его фонетическом, лексическом и грамматическом аспектах (в сопоставлении с родным языком);

• социокультурные нормы бытового и делового общения, а также правила речевого этикета, позволяющие специалисту эффективно использовать иностранный язык как средство общения в современном поликультурном мире;

• историю и культуру стран изучаемого языка.

Студент должен уметь:

• вести общение социокультурного и профессионального характера в объеме, предусмотренном настоящей программой;

• читать и переводить литературу с иностранного языка на родной по своей специальности (изучающее, ознакомительное, просмотровое и поисковое чтение);

• письменно выражать свои коммуникативные намерения в сферах, предусмотренных настоящей программой;

• составлять письменные документы, используя реквизиты делового письма, заполнять бланки на участие и т.п.;

• понимать аутентичную иноязычную речь на слух в объеме программной тематики;

• владеть базовой лексикой общего языка и языка специальных целей, фонетикой, нормативной грамматикой и синтаксическими структурами английского языка с целью правильного оформления высказывания и понимания речи собеседника;

• приобрести навыки:

– критического мышления, необходимого для творческой профессиональной деятельности;

– самостоятельной работы.

Согласно учебному плану учреждения высшего образования на изучение дисциплины отведено всего 268 ч., в том числе 136 ч. аудиторных занятий, из них практические занятия –136 ч.

Распределение аудиторных часов по семестрам приведено в таблице 1.

Таблица 1

Семестр	Практические занятия	Итоговый контроль знаний
1	51	зачет
2	34	зачет
3	51	экзамен

СОДЕРЖАНИЕ УЧЕБНОГО МАТЕРИАЛА

Чтение

Студент должен уметь:

- владеть всеми видами чтения (изучающее, ознакомительное, просмотровое, поисковое), предполагающими разную степень понимания прочитанного;
- полно и точно понимать содержание аутентичных текстов, в том числе профессионально ориентированных, используя двуязычный словарь (изучающее чтение);
- понимать общее содержание текста (70 %), определять не только круг затрагиваемых вопросов, но и то, как они решаются (ознакомительное чтение);
- получать общее представление о теме, круге вопросов, которые затрагиваются в тексте (просмотровое чтение);
- найти конкретную информацию (определение, правило, цифровые и другие данные), о которой заранее известно, что она содержится в данном тексте (поисковое чтение).

Тексты, предназначенные для просмотрового, поискового и ознакомительного чтения, могут включать до 10 % незнакомых слов.

Говорение

Монологическая речь

Студент должен уметь:

- продуцировать развернутое подготовленное и неподготовленное высказывание по проблемам социокультурного и профессионального общения, перечисленным в настоящей программе;
- резюмировать полученную информацию.

Примерный объем высказывания 15 фраз.

Диалогическая речь

Студент должен уметь:

- вступать в контакт с собеседником, поддерживать и завершать беседу, используя адекватные речевые формулы и правила речевого этикета;

- обмениваться профессиональной и непрофессиональной информацией с собеседником, выражая согласие/несогласие, сомнение, удивление, просьбу, совет, предложение и т.п.;
- сочетать диалогическую и монологическую формы речи.

Примерное количество реплик – 8 (с каждой стороны).

Аудирование

Студент должен уметь:

- воспринимать на слух иноязычную речь в естественном темпе (аутентичные монологические и диалогические тексты, в том числе профессионально ориентированные), с разной полнотой и точностью понимания их содержания;
- воспроизводить услышанное при помощи повторения, перефразирования, пересказа.

Учебные аудио- и видеотексты могут включать до 5 % незнакомых слов, не влияющих на понимание основного содержания.

Письмо

Студент должен уметь:

- выполнять письменные задания к прослушанному, прочитанному, логично и аргументированно излагать свои мысли;
- владеть навыками составления частного и делового письма;
- реферировать и аннотировать профессионально ориентированные и общенаучные тексты с учетом разной степени смысловой компрессии.

СОДЕРЖАНИЕ ОБУЧЕНИЯ
(по семестрам)

I семестр

Ч т е н и е.

Активизировать и корректировать имеющиеся умения и навыки чтения на расширенном языковом материале, совершенствовать их с целью подготовки к ознакомительному и изучающему виду чтения.

Студенты должны уметь:

- прочитать учебный текст на заданную ситуацию общения с точным пониманием его содержания и выделением смысловой информации с использованием словаря (1000 п.зн. за 1 академ.час);
- прочитать учебный текст с целью ознакомления с его содержанием без словаря (1500 п.зн. за 0,5 академ.часа).

Г о в о р е н и е

Диалогическая речь. Студенты должны уметь вести беседу, используя вопросы, восклицания, просьбы, приказания, приглашения, ответные

реплики в виде выражения согласия или отказа, переспроса, возражения, дополнения, сообщения сведений. Они должны уметь поздороваться и попрощаться, представиться, спросить, как дела, высказать свои пожелания, и т.д., используя реплики и выражения, наиболее часто употребляющиеся в Англии при общении на бытовом уровне, а не созданные искусственно с использованием знакомой лексики. Образно говоря, обучаемые должны учиться говорить “по-английски”, а не “на английском языке”. Высказывание каждого собеседника должно содержать не менее 8 реплик.

Монологическая речь. Студенты должны уметь логично и последовательно делать сообщения описательного и повествовательного характера как по заданной теме или ситуации, так и в связи с прослушанным или прочитанным; объем высказывания – 10–12 фраз.

А у д и р о в а н и е

Студенты должны понимать на слух иноязычную речь в естественном темпе в двукратном предъявлении преподавателя или в звукозаписи. Тексты могут содержать до 2% незнакомых слов, о значении которых студенты могут догадаться, и до 1% слов, о значении которых нельзя догадаться, но незнание которых не препятствует пониманию текста в целом. Длительность звучания – 2 мин.

П и с ь м о

Обучающийся должен правильно писать слова и словосочетания, составляющие основной минимум, грамотно оформлять в письменном виде предложения, выполнять письменные задания по образцу.

ЯЗЫКОВОЙ МАТЕРИАЛ

Фонетика.

Корректировка основных уже приобретенных фонетико-орфоэпических навыков; звуковой строй английского языка; особенности произношения гласных и согласных; расхождение между произношением и написанием; особенности интонации английского предложения.

Лексика.

Общий объем составляет примерно 500 слов и словосочетаний (без учета интернациональной лексики, сходной в плане выражения и совпадающей по содержанию).

Грамматика.

Повторение и систематизация имеющихся грамматических навыков, особенности грамматических конструкций, применяемых в технической литературе.

Предметно-тематическое содержание курса

- ✓ An Engineering student
- ✓ Branches of engineering
- ✓ Profession variety
- ✓ Experimenting
- ✓ Role of experiments in people's life
- ✓ Constructing graphs
- ✓ Cars in use
- ✓ Laboratory works
- ✓ Students' experiments in the lab
- ✓ Computing
- ✓ Advantages and disadvantages of having a computer
- ✓ Computer components
- ✓ The Internet
- ✓ The history of computer systems
- ✓ Taking part in a scientific conference
- ✓ Information technologies
- ✓ Robotics
- ✓ What do we need robots for?
- ✓ Spheres of robot application
- ✓ At the robot exhibition
- ✓ Industrial robots
- ✓ Where do the inventions come from?

II семестр

СОДЕРЖАНИЕ ОБУЧЕНИЯ

Ч т е н и е

Студенты должны уметь читать про себя (со словарем) с максимально полным и точным пониманием содержания впервые предъявляемые несложные тексты общественно-бытового и научно-популярного характера, содержащие до 5% незнакомых слов. Объем текста – 1500 п.зн. за 1 академ. час.

Студенты должны уметь читать про себя (без словаря) с целью понимания основного содержания тексты, включающие до 3% незнакомых слов, о значении которых студенты могут догадаться, и до 3% слов, о значении которых нельзя догадаться, но незнание которых не препятствует пониманию текста в целом. Объем текста – 2000 п.зн. за 0,5 академ. часа.

Г о в о р е н и е

Диалогическая речь. Студенты должны уметь вести беседу, включающую развернутые дополнительные сообщения и аргументацию своей точки зрения в соответствии с ситуацией по теме, а также в связи с содержанием услышанного, увиденного, прочитанного. Высказывание каждого собеседника должно содержать не менее 8 реплик.

Монологическая речь. Студенты должны уметь: 1) делать подготовленные сообщения в виде информации или развернутого рассказа на основе прослушанного, увиденного, прочитанного; 2) раскрыть тему, сделать выводы и аргументировать их. Сообщения должны содержать личную оценку. Объем высказывания – не менее 12 фраз.

А у д и р о в а н и е

Студенты должны понимать на слух и реагировать на разнообразные типы высказываний, в которых обсуждаются различные точки зрения по проблемам, а также тексты различного характера в естественном темпе, в двукратном предъявлении преподавателя и в звукозаписи. Тексты могут содержать до 2% незнакомых слов, о значении которых студенты могут догадаться, и до 2% слов, о значении которых нельзя догадаться, но незнание которых не препятствует пониманию текста в целом. Длительность звучания – 25 мин.

П и с ь м о

Обучающийся должен уметь: 1) заполнить подробную анкету о себе; 2) составить подробный план прочитанного текста; 3) составить перечень вопросов к предстоящему разговору с реальным или воображаемым партнером.

ЯЗЫКОВОЙ МАТЕРИАЛ

Фонетика. Овладение интонацией сложных предложений, вводных членов предложения, интонацией предложений в косвенной речи, интонацией разговорных формул (приветствие, прощание, знакомство, благодарность, извинение и т.д.).

Лексика. Общий объем составляет 500 слов и словосочетаний и включает в себя строевые слова, стандартные реплики, клише, словосочетания, слова-понятия и типовые фразы-образцы, относящиеся к изучаемым сферам общения и понимания.

Грамматика. Повторение и систематизация имеющихся грамматических навыков, особенности грамматических конструкций, применяемых в технической литературе.

Предметно-тематическое содержание курса

- ✓ Automotive engineering
- ✓ Car mechanisms
- ✓ At the motor show
- ✓ Designing cars
- ✓ Types of cars
- ✓ Tractor technology

- ✓ Different types of machine-tools
- ✓ NC-systems
- ✓ Material science
- ✓ The properties of copper
- ✓ Copper alloys
- ✓ Steel, classes of steel
- ✓ Sports materials
- ✓ New technologies in sport

III семестр

СОДЕРЖАНИЕ ОБУЧЕНИЯ

Ч т е н и е

Студенты должны уметь читать про себя (со словарем) с максимально полным и точным пониманием содержания впервые предъявляемые несложные тексты общественно-бытового и научно-популярного характера, содержащие до 5% незнакомых слов. Объем текста – 1500 п.зн. за 1 академ. час.

Студенты должны уметь читать про себя (без словаря) с целью понимания основного содержания тексты, включающие до 3% незнакомых слов, о значении которых студенты могут догадаться, и до 3% слов, о значении которых нельзя догадаться, но незнание которых не препятствует пониманию текста в целом. Объем текста – 2000 п.зн. за 0,5 академ. часа.

Г о в о р е н и е

Диалогическая речь. Студенты должны уметь вести беседу на расширенном языковом материале, включающую развернутые дополнительные сообщения и аргументацию своей точки зрения в соответствии с ситуацией по теме, а также в связи с содержанием услышанного, увиденного, прочитанного. Высказывание каждого собеседника должно содержать не менее 10 реплик.

Монологическая речь. Студенты должны уметь: 1) делать подготовленные сообщения в виде информации или развернутого рассказа на основе прослушанного, увиденного, прочитанного; 2) раскрыть тему, сделать выводы и аргументировать их. Сообщения должны содержать личную оценку. Объем высказывания – не менее 12 фраз.

А у д и р о в а н и е

Студенты должны понимать на слух и реагировать на разнообразные типы высказываний, в которых обсуждаются различные точки зрения по проблемам, а также тексты различного характера в естественном темпе, в двукратном предъявлении преподавателя и в звукозаписи. Тексты могут содержать до 2% незнакомых слов, о значении которых студенты могут догадаться, и до 2% слов, о значении которых нельзя догадаться, но незнание

которых не препятствует пониманию текста в целом. Длительность звучания – 2 мин.

П и с ь м о

Обучающийся должен уметь:

1) составить аннотацию, резюме, реферат по прочитанному материалу со своими собственными выводами и заключениями;

2) грамотно сделать перевод общетехнических текстов с учетом их языковой и логически-смысловой специфики.

ЯЗЫКОВОЙ МАТЕРИАЛ

Фонетика. Совершенствование навыков произношения в нормальном темпе английской разговорной речи.

Лексика. Общий объем составляет 500 слов и словосочетаний и включает в себя строевые слова, стандартные реплики, клише, словосочетания, слова-понятия и типовые фразы-образцы, относящиеся к изучаемым сферам общения и понимания.

Грамматика. Повторение и систематизация имеющихся грамматических навыков, особенности грамматических конструкций, применяемых в технической литературе.

Предметно-тематическое содержание курса

1. Material science
   1.1 Composite materials
   1.2. Plastics
   1.3. How to draw up a laboratory experiment
2. Applying for a job
   2.1. How to improve one’s career
   2.2. Telephoning
   2.3. Job interview
3. Great ideas
   3.1. Innovation works
   3.2. Generating new ideas
   3.3. Global projects
4. Marketing
   4.1. Two business functions
   4.2. Advertising and promotion
   4.3. Exchanging information
   4.4. Product availability.

УЧЕБНО-МЕТОДИЧЕСКАЯ КАРТА УЧЕБНОЙ ДИСЦИПЛИНЫ «ИНОСТРАННЫЙ ЯЗЫК»

Номер раздела, темы, занятия	Название раздела, темы, учебного занятия; перечень изучаемых вопросов	Количество аудиторных часов				Самостоятельная работа студента	Методические пособия, средства обучения (оборудование, учебно-наглядные пособия и др.)	Литература	Формы контроля знаний
		Лекции	Практические занятия	Лабораторные занятия	Управляемая (контролируемая) самостоятельная работа студента				
1	2	3	4	5	6	7	8	9	10
Семестр 1									
1	**Иностранный язык (Практика устной речи)**		**51**						
	An Engineering Student		**4**						
1.1	*Языковой материал* Грамматика Порядок слов, глагол **to be**, Gr.R. p327, ex2,p7 Лексика Greetings and introduction, p.6 *Основные виды речевой деятельности* Чтение Text: Branches of engineering, ex1a,b,c, p10 Говорение Theme dialogues. Ex1,p7 Аудирование University dialogues, ex 2a,b,p5-6. Письмо translation ex11,p9.		2			Prepare a presenta-tion for the conference. Ex 11,p10	учебник раздаточ-ный материал CD проигры-ватель		устная презентация фронтальный опрос
1.2	*Языковой материал* ГрамматикаAdjectives. Degrees of comparison. Ex 9,p9. Лексика Prepositional phrases. Ex3,p7 *Основные виды речевой деятельности* Чтение Types of letters. Ex1,p11. Говорение Speak about profession variety. Ex 5-7.p8 Аудирование University dialogues, ex 2c,d,p6. Письмо Write a personal letter.		2			Работа со словарем. Перевод научно-техничес-кого текста. ex3,p15	учебник раздаточ-ный материал CD проигры-ватель		устная презентация фронтальный опрос

Продолжение таблицы

1	2	3	4	5	6	7	8	9	10
1.3	Контрольная работа по пройденному материалу		**2**						тест
	Experimenting								
1.4.	*Языковой материал* Грамматика Present Continuous Active. Gr.R. p331. Ex 3-5,p15 Лексика Active Vocabulary, ex 1,2,p14-15 *Основные виды речевой деятельности* Чтение Text #3,p18. Ex1-3,p18 Говорение Discuss the problems "Role of experiments", ex1,p13 Аудирование Dealing with stress, Tr.5.1; 5.2; 5.3 Письмо Constructing graphs, ex1,p22		**2**			"	раздаточ-ный материал CD проигры-ватель		фронтальный опрос, работа в мини группах.
1.5.	*Языковой материал* Грамматика Past Continuous Active Gr.R p331, ex6-8,p17 Лексика Active vucabulary in use, ex10,p17 *Основные виды речевой деятельности* Чтение Text #3,p20, ex1-5,p19-20 Говорение Cars in use, ex1-2,p21 Аудирование Dealing with stress Tr.5.3. Письмо Writing and translating instructions, ex2p22-23		**2**			Carry out home experiment, ex2,p22	учебник CD проигры-ватель		
1.6.	*Языковой материал* Грамматика Future Continuous Active. Gr.R p331, ex3,4,p23 Лексика Noun-building suffixes. Ex1,p25 *Основные виды речевой деятельности* Чтение Text1,p29 Говорение Making predictions, ex3,p24. Dialogue: What are your plans Аудирование Dealing with stress Tr.5.4., 5.5. Письмо Write a personal letter about your plans. Ex 9,p28		**2**			Describe experi-ments with a multimeter	учебник раздаточ-ный материал CD проигры-ватель		фронтальный опрос, работа в мини группах.
1.7.	*Языковой материал* Грамматика Continuous Tenses – revision. Gr. R. p332,ex 5-7,p27 Лексика Electrical devices. Active Vocabulary, Unit2,p308-309. *Основные виды речевой деятельности* Чтение Text#3, ex 1-5,p31 Говорение Role play dialogues, ex2,p30, ex 2,p33 Аудирование Corporate entertaining Tr.6.1; 6.2; 6.3		**2**			Работа со словарем. Перевод научно-техничес-кого текста.	учебник CD проигры-ватель		Самостоя-тельная работа, Подготовка проекта

	Письмо Describe students' experiments in the lab. Ex1,p33					Ex2,p34			
1.8.	*Языковой материал* Грамматика Continuous Tenses – revision. Gr. R. p332, Лексика Expressions to speak about plans. Ex5,p25 *Основные виды речевой деятельности* Чтение.How GM's Hy-wire works. P285-286 Говорение Group discussion: The role of experiments in our life. Аудирование Corporate entertaining Tr.6.4. Письмо Dictation-translation. Active vocabulary and grammar in use.		**2**				учебник CD проигры-ватель		фронтальный опрос, работа в мини группах.
1.9.	Контрольная работа по пройденному материалу		**2**						тест
	Computing								
1.10.	*Языковой материал* Грамматика Present Simple Active. Gr.R.p332, ex4-6,p37-38 Лексика Adverbs of frequency.Ex 1-2,p.36 *Основные виды речевой деятельности* Чтение.Introductory dialogues, ex2a,b,p35-36 Говорение Advantages and disadvantages of computers. Ex.1-3,p35. Аудирование Ways to plan CB ex A,B,C, Tr 8.1. Письмо Translation, ex 9,10,p.39		**2**				учебник CD проигры-ватель ПК		фронтальный опрос, работа в мини группах
1.11.	*Языковой материал* Грамматика Past Simple Active. Gr.R.p333.,ex4-6,p36-37. Лексика Computer components, ex36 *Основные виды речевой деятельности* Чтение Text 4,p40. Ex1-4, p40-41 Говорение Speaking about daily routine, ex4,p.37-38 Аудирование The secret of good planning Tr 8.2, 8.3, 8.4. Письмо Write a summery about advantages of computers, ex.1, p44.		**2**				учебник раздаточ-ный материал CD проигры-ватель		
1.12.	*Языковой материал* Грамматика Future Simple Active. Gr.R. p.334, ex10-12, p49. Лексика Active Vocabulary, Unit3, p311 *Основные виды речевой деятельности* Чтение Text "The Internet", ex1-3, p42. Говорение Group discussion, ex1-2,p43-44. Аудирование Meetings, Tr 8.5. Письмо Write a summery about disadvantages of computers, ex. 1(b), p. 44.		**2**			Prepare a report on computers.	учебник раздаточ-ный материал CD проигры-ватель		

1.13.	*Языковой материал* Грамматика Simple Tenses. Revision. Gr.R. p333-334 Лексика Word-building. Derivatives. Ex1,2,p46-47. *Основные виды речевой деятельности* Чтение Text "History of Computer Systems" ex1-4,p51 Говорение Taking part in a scientific conference Аудирование BBC Learning English / [Electronic resource]. – Mode of access: http://www.bbc.co.uk/worldservice/learningenglish Письмо Write a personal letter "Computer of my dream", ex.1,p55		**2**			Работа со словарем. Чтение газетных статей	учебник раздаточ-ный материал CD проигры-ватель		фронтальный опрос
1.14.	*Языковой материал* Грамматика Revision Simple Tenses – Continuous Tenses. Gr.R p331-334 Лексика Active Vocabulary in use p309-310. *Основные виды речевой деятельности* ЧтениеText: "E-link – a revolution on Information technology", p303-304 Говорение Group discussion – Life without computers: myth or reality? Аудирование BBC Learning English / [Electronic resource]. – Mode of access: http://www.bbc.co.uk/worldservice/learningenglish Письмо Dictation-translation		**2**			Research work "Computers of the Future"	учебник раздаточ-ный материал CD проигры-ватель		устная презентация работа в мини группах
1.15	Контрольная работа по пройденному материалу		**2**						тест
	Robotics								
1.16	*Языковой материал* Грамматика Present Perfect Active, Gr.R. p335, ex 5-8,p58-59 Лексика Suffixes to make adjectives, ex1,p57 *Основные виды речевой деятельности* Чтение Make up a text, ex 12-13,p60 Говорение What do we need robots for? Ex1-3,p56-57. Аудирование BBC Learning English / [Electronic resource]. – Mode of access: http://www.bbc.co.uk/worldservice/learningenglish Письмо translation, ex 14-15, p61.		**2**				учебник раздаточ-ный материал CD проигры-ватель		самостоятельная работа фронтальный опрос, работа в мини группах.
1.17	*Языковой материал* Грамматика Present Perfect Active, Gr.R. p335, ex 9-12,p58-59 Лексика Active Vocabulary in use, ex2-4,p58 *Основные виды речевой деятельности*		**2**						

	Чтение Text#3, ex 3-6,p62 Говорение Group work: Spheres of robot application, ex1-2, p62. Аудирование BBC Learning English / [Electronic resource]. – Mode of access: http://www.bbc.co.uk/worldservice/learningenglish Письмо Write a report, ex1,p66								
1.18.	*Языковой материал* Грамматика Past Perfect Active, Gr.R. 336, ex 3-4, p69. Лексика Active Vocabulary in use, ex, p63 *Основные виды речевой деятельности* Чтение Text "Shake hands with a robot", ex 3-5, p63-64. Говорение Pair work ; Where have you been?, ex3-5, p65. Аудирование BBC Learning English / [Electronic resource]. – Mode of access: http://www.bbc.co.uk/worldservice/learningenglish Письмо Write a report, ex1, p66		**2**			Перевод научно-технического текста со словарем	учебник раздаточный материал CD проигрыватель		устная презентация фронтальный опрос, работа в мини группах
1.19.	*Языковой материал* Грамматика Future Perfect Active, Gr.R. p337, ex 4b-6, p69-70. Лексика Active Vocabulary in use, Unit 4(A), p311. *Основные виды речевой деятельности* Чтение Text 2, ex 1-4,p72-73 Говорение Group discussion; What is a feedback device? Ex 1,5,p72-73 Аудирование The world's premier free website for learners and teachers / [Electronic resource]. – Mode of access: http://books.google.by/books?id Письмо Translation ex10, p71		**2**				учебник раздаточный материал CD проигрыватель		самостоятельная работа фронтальный опрос, работа в мини группах
1.20.	*Языковой материал* Грамматика Perfect Tenses. Revision, Gr.R,p335-337, ex 7-9, p70-71. Лексика Active Vocabulary, Unit4(B), p312 *Основные виды речевой деятельности* Чтение Text#3, ex1-4, p73-74. Говорение Dialogue "At the robot exhibition", ex 1-4, p74. Аудирование The world's premier free website for learners and teachers / [Electronic resource]. – Mode of access: http://books.google.by/books?id Письмо Describe an industrial robot. Ex1, p75.		**2**			Перевод научно-технического текста со словарем	учебник раздаточный материал CD проигрыватель		самостоятельная работа дискуссия в мини группах
1.21.	*Языковой материал*		**2**				учебник		самостоятель

	Грамматика Present Perfect – Past Simple Лексика Active Vocabulary in use, p312 *Основные виды речевой деятельности* Чтение Text “Flying cars”, ex 1-3, p287-289 Говорение Group discussion : Where do the inventions come from? Аудирование Great ideas Письмо Dictation – translation.						раздаточный материал CD проигрыватель		ная работа дискуссия в мини группах
1.22.	Контрольная работа по пройденному материалу		**2**						тест
1.23.	Повторение		**2**				учебник раздаточный материал CD проигрыватель		самостоятельная работа дискуссия в мини группах
1.24.	Повторение		**2**				учебник раздаточный материал CD проигрыватель		устная презентация фронтальный опрос, работа в мини группах
1.25	Итоговая контрольная работа		**3**						тест
	Итого за семестр		**51**						зачет

Семестр 2

1	2	3	4	5	6	7	8	9	10
	Automotive engineering								
2.1.	*Языковой материал* Грамматика Present Simple Passive, Gr.R. p337, ex 8-11, p81. Лексика Car mechanisms, ex1-3, p78-79 *Основные виды речевой деятельности* Чтение Text 3, ex 1-4, p84 Говорение Role play the dialogues “At the motor show.”, ex 1-2, p85		**2**			Перевод научно-технического текста со словарем	учебник раздаточный материал		фронтальный опрос, работа в парах

	Аудирование Voice of America learning English / [Electronic resource]. – Mode of access: http://learningenglish.voanews.com/. Письмо Write a report about fuel system operation.						CD проигрыватель		
2.2.	*Языковой материал* Грамматика Past Simple Passive, Gr. R. p338, ex 4-6, p89 Лексика Designing cars, ex 1-2, p88 *Основные виды речевой деятельности* Чтение Text 3, ex 1-4, p92 Говорение Group discussion: «What type of car to have", ex 1,p91 Аудирование Voice of America learning English / [Electronic resource]. – Mode of access: http://learningenglish.voanews.com/. Письмо Translation, ex10,11, p91		**2**				учебник раздаточный материал CD проигрыватель		Устная презентация, самостоятельная работа
2.3.	Грамматика Future Simple Passive, Gr.R, p338, ex 4,7,8, p90 Лексика Designing cars, ex 3, p88 *Основные виды речевой деятельности* Чтение Text#3, ex1-4, p93 Говорение Expressing certainty and doubt, ex 1,2, p94 Аудирование The world's premier free website for learners and teachers / [Electronic resource]. – Mode of access: http://books.google.by/books?id Письмо Translate the article, ex2, p94.		**2**				учебник раздаточный материал CD проигрыватель		тест
2.4	*Языковой материал* Грамматика Present Perfect Passive, Gr.R. p338, ex 4-6, p98-99 Лексика Tractor technology, ex 1-2, p97-98 *Основные виды речевой деятельности* ЧтениеText "The Ford company", ex 1-4, p101 Говорение Lead-in dialogues, " Where have you been?", ex1-3, p96-97 Аудирование The world's premier free website for learners and teachers / [Electronic resource]. – Mode of access: http://books.google.by/books?id Письмо Enquiry and Offer letters.		**2**			Write a summery about Ford tractors.	учебник CD проигрыватель ПК		фронтальный опрос
2.5.	*Языковой материал* Грамматика Present Perfect Passive, Gr.R. p339, ex7-10, p 99-101. Лексика Active Vocabulary in use, ex3-4, p97-98. *Основные виды речевой деятельности*		**2**			Prepare a report The car of the future	учебник CD проигрыватель		фронтальный опрос, работа в мини

	Чтение Text 2, ex 1-4, p102-103 Говорение What types of tractors do you know? Role play a situation, ex7, p102. Аудирование The world's premier free website for learners and teachers / [Electronic resource]. – Mode of access: http://books.google.by/books?id Письмо Translation, ex11, p100								группах
2.6.	*Языковой материал* Грамматика Past Perfect Passive, Gr.R. p338, ex 5-8, p108-109 Лексика Machinery, ex1-3, p106-107 *Основные виды речевой деятельности* Чтение Different types of machine-tools, Text#4, p110-111. Говорение Advances in Machine engineering, ex 1-3,p105 Аудирование The world's premier free website for learners and teachers / [Electronic resource]. – Mode of access: http://books.google.by/books?id Письмо Complete the text using the diagram, ex 7-8, p112		**2**			Перевод научно-технического текста со словарем, ex2, p104	учебник CD проигрыватель		устная презентация
2.7.	*Языковой материал* Грамматика Future Perfect Passive, Gr.R. p339, ex6-8, p108-109 Лексика Active Vocabulary, revision, p314-315 *Основные виды речевой деятельности* Чтение Text “ NC-systems”,ex1-5, p112-113. Говорение Group discussion: Advantages and disadvantages of using machine-tools. Ex3, p114. Аудирование The world's premier free website for learners and teachers / [Electronic resource]. – Mode of access: http://books.google.by/books?id Письмо Write a composition: Advantages and disadvantages of using machine-tools		**2**				учебник CD проигрыватель		Взаимоконтроль, фронтальный опрос
2.8.	Контрольная работа по пройденному материалу		**2**						тест
	Material Science								
2.9.	*Языковой материал* Грамматика Modal verbs. Expressing ability.Can, Could, be Able to. Ex 4-6, p118-119. Лексика Copper, ex 1-3, p117-118. *Основные виды речевой деятельности*		**2**			Работа со словарем. Чтение газетных статей	учебник CD проигрыватель		фронтальный опрос

	Чтение Text “Copper”, ex 1-4, p120-121. Говорение The properties of copper, ex 1-4, p116-117. Аудирование The world's premier free website for learners and teachers / [Electronic resource]. – Mode of access: http://books.google.by/books?id Письмо Translation, ex 8-9, p120.						ПК		
2.10.	*Языковой материал* Грамматика Modal verbs. Expressing ability.Can, Could, be Able to, Gr.R. p338-339, ex7-9, p119-120 Лексика Active Vocabulary in use, Section A, p315-316 *Основные виды речевой деятельности* Чтение Text 3, ex 1-5, p122-123 Говорение Pair work, group discussion: Copper metals, ex 1-2,p123 Аудирование The world's premier free website for learners and teachers / [Electronic resource]. – Mode of access: http://books.google.by/books?id Письмо Write a composition about copper alloys.		**2**				учебник CD проигрыватель		Взаимоконтроль, фронтальный опрос
2.11.	*Языковой материал* Грамматика Modal verb May, ex 4-7, p127-128 Лексика Steel. Ex 1-3, p126 *Основные виды речевой деятельности* Чтение Text #3, ex 1-5, p129-130 Говорение How to ask for and give permission in English, ex 3-4, p125-126 Аудирование The world's premier free website for learners and teachers / [Electronic resource]. – Mode of access: http://books.google.by/books?id Письмо Make up a list of questions to clarify what steels are and how they are produced, ex 5-6, p130		**2**			проект	учебник CD проигрыватель		Работа в мини группах, диалогическая речь.
2.12.	*Языковой материал* Грамматика Modal Verb May, Gr.R. p339 Лексика Active Vocabulary. Steel. P317 *Основные виды речевой деятельности* Чтение Text “Classes of steel”, ex 1-5, p130-131 Говорение Group discussion. Consider advantages and disadvantages of various steels.		**2**			Dictation Revision CB, unit7	учебник		

	Аудирование The world's premier free website for learners and teachers / [Electronic resource]. – Mode of access: http://books.google.by/books?id Письмо Write a description of any steel.								
2.13	*Языковой материал* Грамматика Modal verbs, expressing ability. Revision, Gr.R p33339 Лексика Active Vocabulary in use,p315-316 *Основные виды речевой деятельности* Чтение Text "Steel quality", ex 1-3, p295-297 Говорение Role play the dialogue "the types of steel", ex 1-2, p125. Аудирование The world's premier free website for learners and teachers / [Electronic resource]. – Mode of access: http://books.google.by/books?id Письмо translation check, ex 4, p297		**2**						
2.14	*Языковой материал* Грамматика Modal verb Must, ex4-7, p 136-137 Лексика Active Vocabulary in use, ex 1-3, p135-136. *Основные виды речевой деятельности* Чтение Text "Sports materials", ex1-4,p138-139. Говорение Going in for sports, sports equipment. Comment on the statements, ex 6, p143. Аудирование The world's premier free website for learners and teachers / [Electronic resource]. – Mode of access: http://books.google.by/books?id Письмо Translation, ex9, p138		**2**						
2.15	Контрольная работа по пройденному материалу		**2**						тест
2.16	Повторение		**2**				учебник CD проигрыватель		Работа в мини группах, диалогическая речь
2.17	Итоговая контрольная работа		**2**						тест
	Итого за семестр		**34**						зачет

Семестр 3

1	2	3	4	5	6	7	8	9	10
3.1.	*Языковой материал* Грамматика Modal Verbs to express necessity and obligation Лексика Active vocabulary in use, p134-137 *Основные виды речевой деятельности* Чтение Text “Riding a bicycle”, ex 1-3, p292-293 Говорение New technologies in sport Аудирование The world's premier free website for learners and teachers / [Electronic resource]. – Mode of access: http://books.google.by/books?id Письмо Translation, ex 4, p294		**2**						Работа в мини группах, диалогическая речь
3.2.	*Языковой материал* Грамматика Modal verb Must, ex 8-10, p137, Gr.R. p340-341. Лексика Composite materials, p317 *Основные виды речевой деятельности* Чтение Text “Plastics”, ex 1-4, p141-142. Говорение Role play a conversation, “How to draw up a laboratory experiment”. Ex 1-3, p133-135. Аудирование The world's premier free website for learners and teachers / [Electronic resource]. – Mode of access: http://books.google.by/books?id Письмо Complete the text, ex 5, p140.		**2**						фронтальный опрос Взаимоконтроль
3.3.	*Языковой материал* Грамматика Modal verbs and Tenses. Лексика Composite Materials, p 318 *Основные виды речевой деятельности* Чтение Text “Spiders’ Webs”, ex 1-3, p300-301. Говорение Group discussion – New technologies in everyday life. Аудирование The world's premier free website for learners and teachers / [Electronic resource]. – Mode of access: http://books.google.by/books?id Письмо translation, ex 4, p302.		**2**			Работа со словарем. Чтение газетных статей			Работа в мини группах Взаимоконтроль
3.4.	Контрольная работа по пройденному материалу		**2**						тест
	Applying for a job								

3.5.	*Языковой материал* Грамматика Modals: ability, requests, offers Лексика CB, vocabulary file p. 157, 158 *Основные виды речевой деятельности* Чтение "Ten ways to improve your career", CB p.8,9 ex. B, C, D Говорение Беседа по тексту What helps when trying to move ahead in your career? Ex. A, p. Аудирование Improving your career (tracks1.2, 1.2) p.9 ex. A,B, C, D Письмо PF, language review, p.5		**2**				учебник раздаточный материал CD проигрыватель		самостоятельная работа
3.6.	*Языковой материал* Грамматика Revision: question formation Лексика БК англ. языка И. Богацкий, стр. 37-43 *Основные виды речевой деятельности* Чтение Текст: Dos and Don'ts for Job Seekers p. 50 Говорение Telephoning, Making an appointment Аудирование (tr.1.3; 1.4; 1.5) Письмо Covering letter, PF p.7 ex. C,D		**2**				учебник раздаточный материал CD проигрыватель ПК		Диалогическая речь, парная работа
3.7.	*Языковой материал* Грамматика Revision: Modals: ability, requests, offers Лексика A new appointment in Fast-Track Inc. *Основные виды речевой деятельности* Чтение Текст: CB, p. 13,Profiles of the candidates Говорение The requirements to an applicant Аудирование (tr.1.6; 1.7; 1.8) Письмо Writing e-mail		**2**						
3.8.	Контрольная работа по пройденному материалу		**2**				учебник		тест
3.9.	Revision		**2**			Перевод научно-технического текста со словарем, ex 10, p150	учебник раздаточный материал ПК		самостоятельная работа, взаимоконтроль работа в минигруппах
3.10.	Check up your progress, Part 1, ex 1-5, p146-147.		**2**						тест
3.11.	Check up your progress, Part 2, ex 6-10, p148-149		**2**						тест

	Great ideas								
3.12.	*Языковой материал* ГрамматикаNarrative constructions . CB p 38 Лексика Verb and noun combination CB p.34 ex.A,B, T. 4.1 *Основные виды речевой деятельности* Чтение Текст Ferrari attraction, CB p 36 Говорение Starting up. CB, p.34 ex. A, B Аудирование The Innovation Works Tr. 4.2, 4.3 Письмо The Innovation Works, Tr. 4.2, 4.3		2						Диалогическая речь, парная работа
3.13.	*Языковой материал* Грамматика Tense revision. p.38 A,B,C Лексика How new ideas are found and nurtured Чтение Текст Three great ideas Articles 1,2,3 p.36 Говорение Global projects Аудирование Voice of America learning English / [Electronic resource]. – Mode of access: http://learningenglish.voanews.com Письмо PF p.17, ex.A,B,C		2						самостоятельная работа, взаимоконтроль, работа в минигруппах
3.14.	*Языковой материал* Грамматика Reported speech, rules CB Ex A,B,C p 82 Лексика Useful language, p.39 *Основные виды речевой деятельности* Чтение Текст «Azra's award-winning products» Говорение How to conduct a meeting Аудирование Freestyle company Tr.4.4 Письмо Giving detailed inform. PFp.18,19		2						Фронтальный опрос, самостоятельная работа, взаимоконтроль
3.15.	*Языковой материал* Грамматика Revision: Reported speech Лексика PF p 16, ex A,B, Чтение PF The way of the wiki. PF p 16, ex C Говорение Ideas for exciting new products which use Protean Аудирование Tr. 4.5 Письмо Dictation - translation		**2**						Фронтальный опрос, самостоятельная работа, взаимоконтроль
3.16.	Контрольная работа по пройденному материалу		**2**						тест
	Marketing								

3.17.	*Языковой материал* Грамматика Questions, types of questions CB p 66 Лексика word partnerships CB p 62-63, ex A,B *Основные виды речевой деятельности* Чтение Voice of America learning English / [Electronic resource]. – Mode of access: http://learningenglish.voanews.com/. Говорение Business has only two functions – marketing and innovation Аудирование "The four Ps" Tr 7.1. Письмо Подготовка интервью		**2**				учебник раздаточный материал CD проигрыватель		самостоятельная работа, взаимоконтроль, работа в минигруппах
3.18.	*Языковой материал* Грамматика Questions, types of questions Лексика Useful language CB p67 *Основные виды речевой деятельности* Чтение 5: the film. Говорение Беседа по тексту, ответы на вопросы CB ex A,B,C,D, p 64-65 Аудирование Tr 7.2, 7.3. Письмо A survey		**2**				учебник раздаточный материал CD проигрыватель ПК		Фронтальный опрос, самостоятельная работа,
3.19.	*Языковой материал* Грамматика Questions, PF , p 13, ex A,B,C Лексика Vocabulary File p 160 *Основные виды речевой деятельности* Чтение Говорение Telephoning: exchanging information Аудирование Tr 7.5, 7.6, 7.7 Письмо PF		**2**				учебник раздаточный материал CD проигрыватель		
3.20.	*Языковой материал* Грамматика Revision Лексика Case study pp68-69 *Основные виды речевой деятельности* Чтение The launch CB p 68 Говорение Product availability CB p 69 Аудирование Tr 7.9. Письмо Writing file p 134		**2**			Revision CB, unit 7	учебник раздаточный материал CD проигрыватель		Фронтальный опрос, самостоятельная работа, взаимоконтроль

3.21.	Контрольная работа по пройденному материалу		**2**						тест
3.22.	Повторение		**2**				учебник разд. мат., CD проигр.		Фронт. опрос, самостоят. работа, взаимоконтр.
3.23.	Повторение		**2**				разд. мат., CD проигр.		Диалогич. речь, парная работа
3.24.	Повторение		**2**				учебник разд. мат., CD проигр.		Фронт. опрос, самостоятельная работа, взаимоконтр.
3.25.	Final test		**3**						тест
	Итого за семестр		**51**						экзамен
	Всего аудиторных часов		**136**						

ИНФОРМАЦИОННО-МЕТОДИЧЕСКАЯ ЧАСТЬ

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СРЕДСТВА ДИАГНОСТИКИ

Оценка уровня знаний студента производится по десятибалльной шкале.

Для оценки достижений студента рекомендуется использовать следующий диагностический инструментарий:

- ✓ устный и письменный опрос во время практических занятий;
- ✓ проведение текущих контрольных работ (заданий) по отдельным темам;
- ✓ защита выполненных на практических занятиях индивидуальных заданий;
- ✓ выступление студента на конференции по подготовленному реферату;
- ✓ сдача зачета по дисциплине;
- ✓ сдача экзамена.

За основу оценки берется 1 смысловая ошибка (искажение содержания, ошибочный термин). К другим ошибкам относятся: ритмико-мелодическая, лексическая, синтаксическая и грамматическая. Три ритмико-

мелодические ошибки, две лексические, синтаксические или грамматические ошибки приравниваются к одной смысловой ошибке.

При оценке реферирования текста с русского языка (белорусского / на английский используются те же критерии, что и при оценке перевода с английского языка на русский, т. е. учитываются грамматические, лексические, синтаксические ошибки, к которым могут быть добавлены стилистические неточности перевода. Повторяющиеся ошибки считаются за одну.

Текущий контроль осуществляется в форме комплексных разноуровневых заданий, лексико-грамматических тестов, собеседований. Итоговый контроль – в форме зачетов и экзаменов.

Для *промежуточного* контроля после прохождения каждой темы даются лексико-грамматические тесты. В конце каждого семестра проводится итоговое тестирование по всему пройденному грамматическому и лексическому материалу. По результатам тестирования осуществляется допуск к зачету и экзамену.

В конце третьего семестра студенты сдают экзамен.

Примечание: Лексический минимум за год составляет 600 слов и словосочетаний (из них 300 – терминологическая лексика, 300 – общенаучная и общетехническая лексика).

Зачетные требования

1. Лексико-грамматический тест.
2. Чтение и письменный перевод оригинального общенаучного или общетехнического текста с иностранного языка на родной со словарем. Объем – 1000 печатных знаков. Время выполнения – 45 мин.
3. Подготовленное высказывание по заданной ситуации (10-12 предложений) и неподготовленная беседа с преподавателем в рамках данной ситуации (6-7 реплик).
4. Реферирование оригинального или частично адаптированного культурологического или научно-популярного текста на иностранном языке; беседа на иностранном языке по содержанию текста. Объем текста – 700 печатных знаков. Время выполнения – 10 мин.

Экзаменационные требования

1. Лексико-грамматический тест.
2. Чтение и письменный перевод оригинального профессионально-ориентированного текста с иностранного языка на родной со словарем. Объем – 1300 печатных знаков. Время выполнения – 45 мин.
3. Подготовленное высказывание по заданной ситуации (12-15 предложений) и неподготовленная беседа с преподавателем в рамках данной ситуации (7-8 реплик).

4. Реферирование оригинального или частично адаптированного культурологического или научно-популярного текста на иностранном языке; беседа на иностранном языке по содержанию текста. Объем текста – 900 печатных знаков. Время выполнения – 10 мин.

МЕТОДЫ (ТЕХНОЛОГИИ) ОБУЧЕНИЯ

В числе эффективных педагогических технологий, способствующих вовлечению студентов в поиск и управление знаниями, приобретению опыта самостоятельного решения речемыслительных задач, рекомендуется использовать: технологии проблемно-модульного обучения, технологии учебно-исследовательской деятельности, проектные технологии, коммуникативные технологии (дискуссия, пресс-конференция, мозговой штурм, учебные дебаты и другие активные формы и методы), метод кейсов (анализ ситуации), игровые технологии, в рамках которых студенты участвуют в деловых, ролевых, имитационных играх, и др.

Для управления учебным процессом и организации контрольно-оценочной деятельности педагогам рекомендуется использовать рейтинговые, кредитно-модульные системы оценки учебной и исследовательской деятельности студентов, вариативные модели управляемой самостоятельной работы, учебно-методические комплексы.

В целях формирования современных социально-личностных и социально-профессиональных компетенций выпускника вуза целесообразно внедрять в практику проведения семинарских и практических занятий методики активного обучения, дискуссионные формы и т.п.

В числе современных технологий, направленных на самореализацию личности, рекомендуется использовать:

проектную технологию, представляющую самостоятельную, долгосрочную групповую работу по теме-проблеме, выбранную самими студентами, включающую поиск, отбор и организацию информации. В процессе работы над проектом речевое иноязычное общение вплетено в интеллектуально-эмоциональный контекст другой деятельности;

кейс-технологию, основу которой составляют осмысление, критический анализ и решение конкретных социальных проблем. Кейс-технология позволяет организовать обучение иностранным языкам, ориентированное на развитие способности студентов решать определенные жизненные ситуации, важные повседневные проблемы, с которыми они непосредственно сталкиваются в жизни;

симуляцию, которая применительно к иностранному языку представляет собой подражательное, (разыгранное) воспроизведение личных контактов, организованных вокруг проблемной ситуации, максимально приближенной к реальной;

технологию обучения в сотрудничестве, предполагающую создание условий для активной совместной учебной деятельности студентов в разных учебных ситуациях. Это обучение в процессе общения студентов друг с

другом и с преподавателем при наличии общей цели и индивидуальной ответственности каждого члена группы за собственный вклад в общее дело, за выполнение общего задания;

технологию дебатов, представляющую собой полемический диалог, проходящий по определенному сценарию и имеющий целью убеждение третьей стороны – судей или аудитории;

компьютерные технологии, предполагающие широкое использование Интернет-ресурсов и мультимедийных обучающих программ. Компьютерные технологии позволяют интенсифицировать и активизировать учебно-познавательную деятельность студентов, эффективно организовать и спланировать самостоятельную работу, совершенствовать контрольно-оценочные функции (компьютерное тестирование).

Организация самостоятельной работы студентов

Самостоятельная работа студентов (СРС) организуется в соответствии с Положением о самостоятельной работе студентов, разрабатываемым высшим учебным заведением.

Перечень контрольных вопросов и заданий для самостоятельной работы

- ✓ The compound sentence
- ✓ Quantifiers for countable and uncountable nouns
- ✓ Viewpoint adjectives, connecting adverbs and inversion
- ✓ The imperative
- ✓ Modal auxiliaries and related verbs
- ✓ Form and use of causative.

2. ТЕОРЕТИЧЕСКАЯ ЧАСТЬ

1 TENSES

The Present Simple (Indefinite) Tense	The Present Continuous (Progressive) Tense
Употребление	
• Повторяющиеся действия; *My brother **plays** tennis every other day.* • Действия, следующие одно за другим; • Речь идёт о постоянном состоянии; *She **lives** in London.* • Общеизвестные истины или законы природы; *The moon **moves** round the Earth.* • Расписание движения транспорта; *The train **leaves** in ten.* • С указанием на время проведения мероприятия; *The film **begins** at seven.* • Обзоры, репортажи, спортивные комментарии. *Angelina Jolie **acts** brilliantly in this film.* • Придаточных предложениях времени и условия после союзов WHEN, AFTER, BEFORE, AS SOON AS, UNTIL, IF, IN CASE, etc. *When the water **boils**, I'll turn off the gas.*	• Действие происходит в настоящий момент; *Mum **is talking** on the phone right now.* • Запланированные действия в ближайшем будущем; *My father **is leaving** for Rome tonight.* • Действие обозначает процесс; • Повторяющиеся действия, вызывающие раздражения или критические замечания. Обычно употребляется с наречиями ALWAYS, CONSTANTLY. *She **is always interrupting** me!* • Меняющаяся/ развивающаяся ситуация; *His English **is getting** better.* • Стативные глаголы обозначающие действия. **Compare:** *The soup **smells** delicious.* (state, Present Simple) *She **is smelling** the rose.* (activity, Present Continuous)

- Действия, состояния в момент речи с использованием стативных глаголов:

✓ Глаголы чувственного восприятия (see, hear, notice, taste, smell, etc.);

*It **smells** like a hospital here.*

✓ Глаголы умственной деятельности (understand, think, believe, remember, know, forget, mean, suppose, recognize, etc.);

***Do** you **recognize** me?*

✓ Глаголы, передающие чувства и эмоции (like, dislike, hate, love, wish, want, prefer, care, etc.);

*I **prefer** dogs to cats.*

✓ Глаголы передающие обладание/владение чем-либо (have, belong, own, possess).

*They **have** a big new house.*

Как образуется

Утвердительная форма

подлежащее + смысловой глагол = утверждение

*I **play** football.*

He / She / It + смысловой глагол + **-s** = утверждение

*He **reads** books.*

Отрицательная форма

подлежащее + do not / does not + смысловой глагол = отрицание

*We **don't read**.*

*He **doesn't play** tennis.*

Вопросительная форма

do / does + подлежащее + смысловой глагол = вопрос

Утвердительная форма

подлежащее + am / are / is + причастие I[1] (образуется путём прибавления **-ing** к основе глагола) = утверждение

*I **am reading** a book.*

Отрицательная форма

подлежащее + am / are / is + not + причастие I = отрицание

*They **are not playing** chess at the moment.*

Вопросительная форма

am / are / is + подлежащее + причастие I = вопрос

***Do** you **hear** me?* ***Does** he **work**?*	***Is** she **using** the computer now?*
Слова-маркеры	
Often Always Usually Seldom Rarely Sometimes Never Generally As a rule Every day (week, year, month, etc.) Every other day (week, month, etc.) Once a week (day, month, etc.)	Now At the moment At present Just now Right now All (the) morning All day All night The whole night These days Still
The Past Simple (Indefinite) Tense	**The Past Continuous (Progressive) Tense**
Употребление	
• Действие, которое завершилось в прошлом и не имеет никакой связи с настоящим. *She **met** her future husband 15 years ago.* • Действия, следующие одно за другим в прошлом. *I **entered** the office, **looked** around and **came** up to the secretary.* • Состояние в прошлом. • Обычные действия или состояния в прошлом. *I often **went** cycling last summer.* • Конструкция **used + Infinitive** подчёркивает контраст между	• Продолжающееся действие в определённый момент в прошлом. *At 9 o'clock yesterday morning, the plane **was flying** to Paris from New York.* • Действие в прошлом, прерывающееся другим действием. *He **was reading** a newspaper when his brother **came**.* • Два действия или более, происходящие одновременно. *He **was listening** carefully while they **were explaining** the plan to him.* • Вводная информация в рассказе, повествовании.

прошлым и настоящим.

*He **used to smoke** forty cigarettes a day till he finally **gave** up smoking.*

- Конструкция **Would + infinitive** (без частицы **to**) используется, чтобы описать повторяющиеся действия в прошлом (не состояния). Используется в письменной речи в воспоминаниях.

*When we **worked** in the same office, we **should have** coffee together.*

*The sun **was shining** and the birds **were singing**. Tom **was driving** his old truck through the forest.*

- Действие в прошлом, которое приводит к раздражению или осуждению со словами **ALWAYS, CONSTATNLY**.

*When he **was** a teenager he **was always making** trouble.*

- С обстоятельствами времени: **WHILE, WHEN, AS, ALL DAY/ NIGHT/ MORNING, YESTERDAY**.

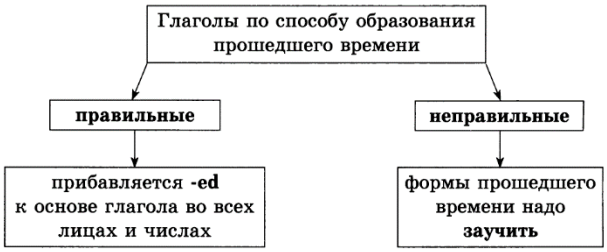
*She **was trying** to open the bag while he **was checking** the passport.*

Образование

Утвердительная форма

подлежащее	+	глагол в прошедшем времени	=	утверждение

*She **watched TV** last night.*



Прошедшее время правильных глаголов

1) глаголы, оканчивающиеся **на согласную** + ed = прошедшее время

Пример: clean + ed = cleaned

2) глаголы, оканчивающиеся **на -e** + d = прошедшее время

Пример: save + d = sav**ed**

Утвердительная форма

подлежащее	+	was / were	+	причастие I	=	утверждение

*He **was looking** for you.*

3) глаголы, оканчивающиеся на **согласную + y** – y + ied = прошедшее время ***Пример***: cry – y + ied = cr**ied** 4) глаголы, оканчивающиеся на **гласную + y** + ed = прошедшее время ***Пример***: play + ed = played 5) глаголы, оканчивающиеся на ударную гласную между двумя согласными + удвоенная согласная + ed = прошедшее время ***Пример***: drop + p + ed = dropped ***Отрицательная форма*** подлежащее + did not + инфинитив основного глагола без частицы **to** = отрицание ***Примеры***: I **did not open** the window. Я не открывал окно. ***Вопросительная форма*** did + подлежащее + основной глагол в инфинитиве без частицы **to** = вопрос ***Примеры***: **Did** they **close** the door? Они закрыли дверь?	***Отрицательная форма*** подлежащее + was / were + not + причастие I = отрицание ***Примеры***: The women **were not talking** at that time. В то время женщины не разговаривали. ***Вопросительная форма*** was / were + подлежащее + причастие I = вопрос ***Примеры***: **Were** you **sleeping** at eleven o'clock last night? Вчера в одиннадцать ты спал?
Слова-маркеры	
Last year (week, summer) In the evening Yesterday Two years ago In spring At the end of the day. At 5 o'clock Once Once upon a time The other day In 1997	At 5 p.m. At that time yesterday At the moment At the time From two to three last Friday Between three and four yesterday All the morning The whole day

The Future Simple	**The Future Continuous**
Употребление	
• Действия в будущем.	• Действие, которое будет

We **will visit** Paris one day.

- Предсказания, прогноз, предварительный расчет.

Life **will be** better fifty years from now.

- Угрозы, предостережения, предложения, просьба.

Stop or I **will shoot**.

- Обещания или спонтанные решения.

I **will help** you with your homework.

- Сглаголами**hope, think, believe, expect**.

I **think** he **will support** me.

- С выражениями **I'msure, I'mafraid**.

I'm sure the exhibition **will go** well.

- С наречиями **probably, perhaps**.

He **will probably go** to work.

совершаться в определенное время в будущем.

This time next week, I **will be skiing** in Austria.

- Действие, которое точно совершится в будущем, как результат договоренности или рутинной работы.

- Shall I inform the rest of the team?
- No, I will do it. I **will be seeing** them at the meeting anyway.

Образование

подлежащее + will + инфинитив основного глагола без частицы to = утверждение

Примеры: All our friends **will be** there.

Отрицательная форма

подлежащее + will + not + инфинитив глагола без частицы to = отрицание

Примеры: You **will not go** there.

Вопросительная форма

will + подлежащее + инфинитив без частицы to = вопрос

Примеры: **Will** you **read**?

Утвердительная форма

подлежащее + will be + причастие I = утверждение

Примеры: I **will be watching** TV at four tomorrow.

Отрицательная форма

подлежащее + will not be + причастие I = отрицание

Примеры: He **will not be watching** TV at four tomorrow.

Вопросительная форма

will + подлежащее + be + причастие I = вопрос

Примеры: Will he be watching TV at four tomorrow?

вопроси-тельное слово + will + подле-жащее + инфинитив без частицы to = вопрос ***Примеры:*** When **will** you **know** it?	
Слова-маркеры	
Tomorrow The day after tomorrow Next week/ month/ year Tonight Soon In a week/ month/ year	This time next week/ tomorrow

The Future Perfect	**The Future Perfect Continuous**
Употребление	
• Действие, которое совершится до определенного момента в будущем. They **will have finished** their meeting by five o'clock this afternoon.	• Подчеркнуть продолжительность действия в будущем в определенный момент. By the time Rick retires, he **will have been working** for the same company for thirty years.
Образование	
Утвердительная форма подлежащее + will + have + причастие II = утверждение ***Примеры:*** I **will have finished** this work by five tomorrow. ***Отрицательная форма*** подлежащее + will + not + have + причастие II = отрицание ***Примеры:*** She **will not have finished** this work by five tomorrow.	подлежащее + will + have + been + причастие I = будущее совершен-ное дли-тельное время

Вопросительная форма will + подлежащее + have + причастие II = вопрос ***Примеры:*** **Will** she **have finished** this work by five tomorrow?	
Слова-маркеры	
By By the time Before Until By then	By … for

2 QUESTIONS

General Questions				
1	**2**	**3**	**4**	**5**
Auxiliary verb	*Subject group*	*Main verb*	*Object*	*Adverbial modifier*
Do	you	remember	our trip to Brussels	last time?
e.g. Is the man smoking a pipe? May I have a look at your photos? Did it rain last night?				

Special Questions					
1	**2**	**3**	**4**	**5**	**6**
Interrogative word	Auxiliary verb	Subject group	Main verb	Object	Adverbial modifier
e.g.Who did they end up choosing for the lead role? Whom specifically will this new policy affect? What are you cooking for dinner?					

Questions about the subject of the sentence			
1	**2**	**3**	**4**
Interrogative word	Predicate	Object	Adverbial modifier
e.g. Wholivesinthat old brick house? What are you looking at? What is there on the floor?			

3 MODALS

MODAL	EXAMPLES	USES
CAN	He **can** find any street in London. You **can** take a taxi. **Can** you take me to Victoria Station?	*Ability* *Suggestion* *Request*
BE ABLE TO	He **is able to** find any street in London.	*Ability*
CAN'T	That story **can't** be true.	*Certainty that something is impossible*
COULD	I **could** play tennis when I was younger. **Could** you take me to Victoria Station? You **could** take a taxi.	*Ability* *Request* *Suggestion*
MAY	It **may** be quicker to travel by train. **May** I come in?	*Possibility* *Formal request/ Permission*
MIGHT	It **might** be quicker to travel by train.	*Possibility*
MUST	You **must** be back at 10 o'clock. Look at the snow. It **must** be cold outside.	*Obligation* *Certainty that something is true.*
HAVE TO	You **have to** be back at 10 o'clock.	*Obligation*
NEED TO	You **need to** study a lot.	*Obligation.*
NEEDN'T	You **needn't** have a university degree.	*Lack of obligation.*
MUSN'T	You **mustn't** drive without a license.	*Prohibition*
DON'T HAVE TO	You **don't have to** call a taxi.	*Lack of obligation*
SHOULD	You **should** drive more carefully.	*Opinion/Advice*
OUGHT TO	You **ought to** drive more carefully.	*Opinion/Advice*

Improve Your English Language

4 CONDITIONALS

Таблица условных предложений английского языка

Тип предложения		**Придаточное предложение**	**Главное**
Real (перевод без «бы»)	0 Conditional Всегда реальное	Present Simple	Present Simple
		If you **heat** water, Если ты **нагреваешь** воду, If people **need** money, Если людям **нужны** деньги,	it **boils**. она **кипит**. they **can borrow** it from banks. они могут **взять кредит** в банке.
	1st Conditional Реальное настоящее или будущее	Present Simple/Continuous	will + Infinitive
		If it **looks** like rain, Если **будет** дождь, If he **is working** on Friday, Если он **работает** в пятницу,	we'll stay at home. мы останемся дома. he won't be able to go with us. он не сможет поехать с нами.
Unreal (перевод с «бы»)	**2nd** Conditional Маловероятное настоящее или будущее	Past Simple/Continuous	would/could/might + Infinitive
		If I **were** you, Если **бы** я **был** тобой, If I **had** more time, Если **бы** у меня **было** больше времени, If it **were** not **raining**, Если **бы** не дождь,	I **would go** there myself. я **бы** сам **пошел** туда. I **would come over**. я **бы зашел** в гости. I **could go out**. я **бы мог выйти**.
	3rd Conditional Нереальное прошлое	Past Perfect	would/could + have + Participle II
		If you **had gone** there, Если **бы** ты **пошел** туда, If it **hadn't been** so hot last summer, Если **бы не было** так жарко прошлым летом,	you **would have seen** him. ты **бы увиделся** с ним. we **could have gone to** theSouth. мы бы могли поехать на юг.

5 PHRASAL VERBS


break
away
уходить, сбегать
down
1. расстроиться
2. сломаться
into
ворваться, проникнуть
off
прерваться
out of
вырваться из
through
прорваться, преодолеть
up
расстаться
out
начаться, разразиться
in
прервать, перебить


Look
after
присматривать за
ahead
планировать
at
взглянуть на...
back
оглядываться назад
down on
пренебрегать
for
искать
forward to
с нерпением ждать
in
заскочить, забежать
into
рассмотреть
up
посмотреть в книге


Catch
at
"схватить"
on
"становиться популярным"
out
"вывести на чистую воду"
up with
"догнать"
up in
"быть вовлеченным"
up on
"нагнать (работу)"


Pull
round
"поправляться"
away
"выделяться, отрываться от лидера"
back
"отступать"
off
"отходить, отъезжать"
out
"вынимать, выдвигать", "отменять"
up
"останавливать, исправ-лять"
in
"останавлив-аться"
on
"натягивать одежду"
down
"снести"
over
"останавли-ваться"
apart
"развести драку"
ahead
"опередить"
through
"выжить, протянуть"


Take
after
походить
away
убирать
back
возвращать
down
снижать
in
брать
off
снимать
on
брать, взять
out
удалять
up
заниматься (чем-л.)


Tear
at
тянуть
up
разорвать
away
прекратить
down
снести
into
напасть
off
сорвать (одежду)
apart
беспокоить, выводить из себя

ADVICE

THERE ARE SO MANY WAYS TO GIVE ADVICE (even when it's not asked for)

Advice can be expressed in numerous ways. 'Should' is by far the most frequently used form for giving advice. In many settings 'should' and 'ought to' are interchangeable. However, when used to give advice 'ought to' may infer the speaker's conviction that a sense of duty is involved.

SHOULD

You haven't been well lately.
You should go to the doctor's.

You should tell John the truth.

You **really** should tell him.

→ This is considered to be the right/customary action to take.

→ Emphatic advice.

OUGHT TO

You ought to go to the doctor's.

You ought to tell John the truth.
He deserves to know.

→ Right/customary thing to do.

→ The speaker considers this to be morally correct and therefore your duty to do. Highly recommended action.

HAD BETTER

You've had a temperature all week.
You'd better call the doctor.

Stronger than 'should', weaker than 'have to'. Should this advice not be taken there may be negative consequences or potential problems.

MUST / HAVE TO

You must go to see this film. It's fantastic.

You have to visit the exhibition. Everyone we know has already been to see it.

Emphatic advice.

ADVISE/WOULD ADVISE

I advise you/I would advise you to make a decision within the next two days.

Advice given in a formal context.

WHY DON'T YOU …… ?

Why don't you go to the doctor's?

Why don't you tell him the truth?

Why don't you mind your own business?

Unemphatic advice or suggestion

MAY/MIGHT AS WELL

You may/might as well tell him the truth.

Unemphatic advice. The speaker doubts there will be any/ulterior negative consequences or problems.

IT'S (HIGH) TIME

It's (high) time you **told** him the truth.

(past subjunctive)

The advice is to do what should already have been done and is (well)overdue.

IF I WERE YOU

If I **were** you, I'd go to the doctor's.

If I **were** you, I would tell him the truth.

(2nd conditional / past subjunctive)

This would be the speaker's action in this setting.

PASSIVE TENSE - Mind map

Most verb forms have an active and passive form.

We use a passive sentence when the object (passive) is more important than the active subject (agent), or the agent (performer of the action) is unidentifiable.

To create a passive sentence:
1. Name the object (which becomes the subject of the sentence)
2. substitute the active verb with the verb 'to be' in the same tense
3. add the past participle (3rd column) of the active verb.
4. if the agent /performer of the action is necessary or useful, put 'by' then name the agent
5. finish the sentence.

Example:

ACTIVE: John washes the car every Monday. — Active verb: present simple

PASSIVE: The car is washed by John every Monday. — Verb 'be' present simple + Active verb past participle

ACTIVE: Did he wash the car yesterday or early this morning?

PASSIVE: Was the car washed yesterday or early this morning?

The children are washing the car.

The car is being washed by the children.

They have washed the car. Someone has washed the car.

The car has been washed.

~~by them~~ /~~someone~~ is deductive and adds no useful information.

They will clean it at the carwash tomorrow.

It will be cleaned at the carwash tomorrow.

He was cleaning the car when it started to rain.

The car was being cleaned when it started to rain.

They had just cleaned the car when it started to rain.

The car had just been cleaned when it started to rain.

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3. ПРАКТИЧЕСКАЯ ЧАСТЬ

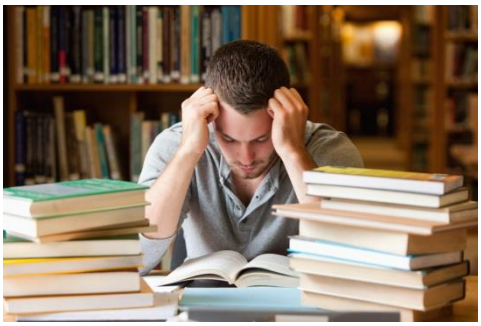
UNIT I
STUDY FOR THE FUTURE

Lesson 1

I. Match the words from both columns to make word combinations and translate these combinations.

1. to switch on	**a.** morning exercises
2. to pass	**b.** breakfast
3. to do	**c.** a quite varied timetable
4. to take	**d.** to the next working day
5. to make	**e.** the tape-recorder
6. to listen to	**f.** the notes of the lectures
7. to go to	**g.** entrance examinations
8. to have	**h.** the latest news
9. to attend	**i.** computer games
10. to look through	**j.** a warm shower
11. to play	**k.** the life
12. to look forward	**l.** practical classes
13. to enjoy	**m.** the nearest underground station

II. Read the text and underline the words you still don't know.



Text 1. STUDENT'S PROFILE

I am a first-year student of the Belarusian National Technical University. I study full-time. I passed my entrance examinations in July and was admitted to the University.

On weekdays the alarm-clock wakes me up at 6.30 and my working day begins. I am not an early riser that is why it is very difficult for me to get out of bed, especially in winter. I switch on my tape-recorder and do my morning exercises. Twice a week I go jogging in the park near home before breakfast. Then I go to the bathroom, take a warm shower, clean my teeth and shave. After that I go to my bedroom to get dressed. Usually my mother makes breakfast for me. But when she is away on business or just doesn't have to get up early, I make breakfast myself. My breakfast is light and quick. I usually have a cup of tea or coffee with

some sandwiches and jam. While having breakfast, I listen to the latest news on the radio.

I leave for the university at 7.30 and go to the nearest underground station. The University is situated in the center of the city in Independence Avenue. It only takes me about 20 minutes to get there so I am always in time for the first lecture. I don't want to waste my time on the train. I've got a small CD-player I listen to music.

My classes begin at 8 o'clock. I have a quite varied timetable, but on a normal day I have two or three lectures, then I attend practical classes, labs and seminars. The classes are over at 3 o'clock. I work hard at my classes and after that I have lunch at the student's canteen and spend 2 or 3 hours at the library.

Every day I look through the notes of the lectures. I always take notes of all lectures, which is helpful when I get ready for my seminars and labs works.

At the moment it's a bit hard because studying here is very different from school. At school they used to tell you what to do and when to do it, but here you have more freedom. I am not used to that so I often leave my essays to the last minute. Then I have to work right through the night, which is something I have never done before.

I come home at about 6 p.m. and wait for my parents. We have dinner together. Then we sit in the living room, drink tea, listen to music, watch TV or just talk.

During the term I am usually busy studying, but I have time for some things other than work. I mean, in the afternoon I go swimming. I have my training in the swimming-pool twice a week. In the evenings I go out with friends or play computer games.

As a rule I go to bed at about 11. Sometimes I am so tired that I fall asleep at once. And still I always look forward to my next working day because I enjoy my life.

III. Answer and discuss the following questions:

- Do you get up early? Is it easy for you to get up early?
- Do you wake up yourself or does an alarm-clock wake you up?
- Do you do morning exercises? Do you do morning exercises to music? Which do you prefer: a cold or hot shower in the morning?
- How long does it take you to get dressed?

- What do you usually have for breakfast?
- Some people look through newspapers or listen to the latest news on the radio while having breakfast. What about you?
- When do you usually leave the house?
- What do you usually do on your way to the university?
- When do you usually have lunch?
- Do you ever have a nap in the afternoon?
- What time do you come home?
- How do you spend evenings?
- What time do you usually go to bed?

IV. Michael had problems with studying, so he wrote to a magazine problem page for advice. Find out what his study problems are and tell your partner about four of them.

Dear editorial staff

I'm having problems with my studies at school. I find it difficult to get down to work in the evenings and I can't concentrate on anything at the moment. I spend most of my time listening to records or watching TV instead of doing my homework. The other students in my class are much better than I am and I have difficulty in keeping up with them. I sometimes have problems with following the lessons as well. I can't always take down the important things my teacher says because I write so slowly. She has told me that I'm falling behind with my studies. I'm not good at writing essays and I usually hand in my homework late because I put off doing it until the last minute. So I often have to invent silly excuses to explain why I haven't done the work. I'm sure I'm not going to get through my final exams in June. I scraped through the mock exams last February with 54% – alt the other students passed with flying colours. I'm now so far behind that I don't know how I'm going to catch up with them. My teacher spent some time going through my homework with me but she found so many mistakes that I felt even more depressed.

What do you suggest I do?

Yours desperately

Michael

V. Do you have any of the following study problems? If you do, discuss them with your partner.

In class	*Outside class*
It's difficult to concentrate. You can't follow the lesson. You don't like the subject. Other students are much better than you. Other problems (What?)	You have nowhere quiet to study. You lack self-discipline. It's difficult to begin studying. You don't have enough time. Other problems (What?)

VI. Match the multi-word verbs in A with the definitions in B.

1. to get down to doing something
2. to keep up with someone/something
3. to take something down
4. to fall behind (with something)
5. to hand something in
6. to put something off
7. to get through (something)
8. to scrape through (something)
9. to catch up (with someone/ something)
10. to go through something

a) to be behind with something, not at the level expected
b) to start work on something
c) to postpone, to decide to do something at a later date
d) to pass an exam or test
e) to check that something is correct, to examine something
f) to reach the same standard or position as someone else
g) to give something to someone in a position of authority
h) to remain at the same standard or position as someone else
i) to record in writing what someone is saying
j) to pass an exam but with a very low grade

Lesson 2

I. Interview your partner using the following word combinations!

- get up
- have breakfast
- go to the university
- start the university
- finish the university
- come home
- have dinner
- go to bed

II. Use the words in sentences!

Education, timetable, foreign language, higher mathematics, knowledge, to become, students' canteen, to take an exam, specialist.

III. Pay attention to the following words:

generation	-	поколение
establishment	-	учреждение
irrespective	-	независимый
secondary education	-	среднее образование
to consider	-	рассматривать, считать
applicant	-	кандидат, абитуриент
to have a good command of	-	хорошо владеть
to attend	-	посещать
preliminary courses	-	подготовительные курсы
equipment	-	оборудование
to engage	-	привлекать
research	-	исследование

IV. Translate the word combinations:

1. to attend kindergartens, **2.** entrance examinations, **3.** well-developed science, **4.** the right to education, **5.** attitude towards religion, **6.** specialized secondary schools, **7.** to conduct in two languages, **8.** higher educational establishments, **9.** laboratory experiments, **10.** to speak at the scientific conferences, **11.** special equipment, **12.** to take part in various discussions.

V. Read the text.

Text 2. THE SYSTEM OF EDUCATION IN THE REPUBLIC OF BELARUS

The education of the younger generation and the people in general is organized in several stages in our country. Our Constitution guarantees citizens the right to education irrespective of nationality, race, sex, social or material status, attitude towards religion.

Pre-school establishments take care of children from three till six years of age. They attend kindergartens where children are looked after while their parents are at work.

School starts at the age of six for our youngsters. Secondary education is provided at general secondary schools, vocational schools and specialized secondary schools.

Ordinary secondary school is divided into three stages: primary school, incomplete and complete secondary school.

The first four years are considered primary. The next level of education is incomplete secondary school. Upon finishing nine classes a pupil can go either to a vocational school (where skilled workers are trained) or having passed the necessary exams to specialized secondary school, known as a technicum (technical, music, medical training).

There are lyceums, colleges and gymnasiums on a level with the general secondary school. The education in Belarus is conducted in two languages.

Belarus is a republic with well-developed science. There is an Academy of sciences in Minsk, about 40 state and a number of commercial establishments of higher learning.

The further educational establishments include universities, specialized institutes. Lectures on theory are combined with practical classes in every subject.

The applicants take entrance examinations (tests). If they want to have a good command of the subject in which they will take examinations, they attend preliminary courses.

The term of training at higher educational establishments varies from 4 to 5-6 years. The students have examinations twice a year. They can use laboratories, special equipment and libraries. The out of town students are provided with residential facilities (in students´ hostels). They can rent a room too. Most of the

students are engaged in research work. They carry out laboratory experiments, speak at the scientific conferences and take part in various discussions.

Apart from the daytime study departments there are correspondence (extramural) departments. They are for people combining work with study.

VI. Complete the sentences:

1. Our Constitution guarantees citizens the right to education irrespective of …. **2.** School starts at the age of … for our youngsters. **3.** Ordinary secondary school is divided into …: primary school, incomplete and complete secondary school. **4.** Upon finishing nine classes a pupil can go either to … or to specialized secondary school. **5.** The … establishments include universities, specialized institutes. **6.** The applicants take …. **7.** Most of the students … in research work. **8.** Apart from the daytime study departments there are … departments.

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entrance tests; correspondence; six; further educational; a vocational school; three stages; nationality, race, sex, social or material status; are engaged

VII. Make up sentences.

1. The education, is organized, in our country, of the people, in several stages. **2.** Take care, pre-school establishments, from three till six years of age, of children. **3.** Secondary education, at general secondary schools, vocational schools and specialized secondary schools, is provided. **4.** Lectures on theory, with practical classes, are combined, in every subject. **5.** Varies, the term of training, from 4 to 5-6 years, at higher educational establishments. **6.** The students, examinations, twice a year, have. **7.** The out of town students, residential facilities, are provided with, (in students´ hostels). **8.** Correspondence departments, for people, are, combining work with study.

VIII. Try to retell the text «The system of education in the Republic of Belarus».

Lesson 3

I. How does student's life differ from other people's life? Match the profession with the texts:

a) student **b) waiter** **c) businessman** **d) postman**

- ✓ I start work at nine. I finish at about seven. I often work late, and I sometimes work at home too. I usually have lunch in a restaurant because my company pays. I always wear smart clothes like a suit, to work. I go to work by train. I never go by car there's too much traffic.
- ✓ My job is an evening job. I start at six o'clock in the evening and finish at about two o'clock in the morning. I have a break at about ten and I always eat in the kitchen. I wear a uniform, of course.
- ✓ I go in when there are classes. They sometimes start at nine. Sometimes at ten. I usually have lunch in the cafeteria, but some days I don't have lunch. In the evening I often work in the library. I go to everywhere by bicycle. I usually wear casual clothes like jeans.
- ✓ I start early – at five o'clock in the morning and I usually finish at about one o'clock in the afternoon, so I always have lunch at home. I wear a uniform at work.

II. Look at the pictures and guess the profession they suggest and then say what each person in that profession does.

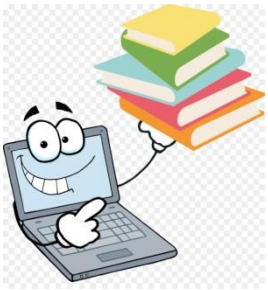
1. *singer – He sings songs.*
2. _____
3. _____
6. _____
7. _____
8. _____

4. _____ 9. _____
5. _____ 10. _____

III. Fill in with the words in brackets.

1. A(n) _____ repairs car engines, whereas a(n) _____ uses scientific knowledge to develop machines. ***(mechanic/engineer)***
2. A(n) _____ is responsible for the preparation and publication of a newspaper, book or magazine, while a(n) _____ prints them ready to be sold. ***(publisher/editor)***
3. _____ work on beaches or in swimming pools and save people from drowning, but _____ are hired to protect famous people. ***(lifeguards/bodyguards)***
4. _____ work in places from which you can buy books, whereas _____ work in places from which you can borrow books. ***(librarians/booksellers)***
5. A _____ writes articles for newspapers or magazines, while a _____ presents news stories on television or radio. ***(journalist/newsreader)***
6. An _____ is a scientist who studies the stars and planets, but an _____ makes predictions by studying the positions of stars and planets. ***(astrologer/astronomer)***
7. A _____ informs people about the weather on the TV or radio, whereas a _____ studies weather conditions so that the weather forecast can be given. ***(weather presenter/meteorologist)***
8. _____ catch fish which are then sold to _____ who sell them in their shops. ***(fishermen/fishmongers)***

IV. Here's a list of adjectives describing qualities certain professions need. Read the sentences and fill in the correct adjectives: persuasive, brave, creative, patient, intelligent, polite, accurate, fair, friendly.



1. Salespeople need to be _____ to get people to buy their products.
2. A scientist has to be _____ in order to understand complex theories.
3. Receptionists should be _____ in order to make people feel welcome.
4. Surgeons must be very _____ as they should not make mistakes in their work.

5. A shop assistant has to be _____ even when dealing with a rude customer.
6. Lifeguards have to be _____ as they often find themselves in dangerous situations.
7. Teachers need to be very _____ as students sometimes take a long time to learn things.
8. Judges should be _____ and give all the evidence equal consideration.
9. Fashion designers should be very _____ so that they can come up with new designs.

V. Read the text about Sidney Fisk. Answer the question.

- What do you think are the good and bad things about Sidney's life?
- Do you think his life is exciting or boring? Would you like to have a life like Sidney's?
- Do you know any people with similar lives? Are they happy?

Text 3. I DON'T KNOW IF I'M HAPPY

Sidney Fisk, 45

Work

Sidney Fisk is a lawyer. He's paid very well, but he usually has to work long hours. He works for an international company in Dallas, Texas, so he travels a lot in his job. At the moment he's working in Mexico, and next week he's travelling to France.

Home life

Sidney is married and he's got two children, aged 11 and 14. He rarely sees his children because so much of his time is spent away from home. He's got a beautiful house in a suburb of Dallas. It's very big, with eight bedrooms. His wife is an interior designer.

Free time

If he's at home at the weekend, he and his wife sometimes play golf, but that doesn't happen very often. They never have much time to relax together.

Is he happy?

He says he doesn't know if he's happy. He's too busy to think about it.

VI. There are a lot of verbs connected with the act of speech. Try to find their exact meanings.

VII. Use the necessary "speaking" verb!

1) Could you be so kind to _____ the last line? I didn't catch a few words.
2) I have never touched anything of your things, brother. I can _____!
3) Can your friend _____ slowly, please? His speech is very fast for me.
4) In this game you need to _____ the answer, but it is forbidden to do it directly.
5) They always _____ on their being not guilty. I'm tired of those talks and their arguments.
6) She moved closer and started to _____ in his ear his favorite lullaby.
7) "This is Captain Carter speaking, I'd like to _____ the arrival of the rescue team".
8) Did our teacher _____ what kind of exam we are going to have at the end of semester?
9) There is a joke saving that Sylvester Stallone always shoots and fights a lot because he can't _____ his feelings another way.
10) Jake and Samantha are going to _____ about their wedding during the family celebration.
11) It is better to keep silence when you have nothing to _____ to everything said before.
12) The coach refused to _____ on his team victory saying that it was not the best game.
13) Her letters are full of metaphors, sometimes I have no clues what she wants to _____ me about.
14) The time to _____ has just ended up. You leave us no choice but to force you speak.

15) “Instead of thousand presents, instead of piles of flowers, just once, _____ you love me”.

VIII. Input the verb from the list (ex. V) into the right gap.

a. _____ - to say something again.
b. _____ - to talk about something or someone without giving details.
c. _____ - to tell people officially about something.
d. _____ - to say something very quietly using almost no voice.
e. _____ - speak in order to give information or express ideas or feelings.
f. _____ - short act of speech to give information.
g. _____ - to say publicly that something is true.
h. _____ - communicate in or be able to communicate in a specified language.
i. _____ - to let somebody know your feelings by putting them into words.
j. _____ - to say something in a very indirect way, but so that other people can guess what you mean.
k. _____ - to promise very seriously that something is definitely true.
l. _____ - to communicate information to someone in spoken or written words.
m. _____ - to say something more after what has already been said.
n. _____ - to give an opinion or explanation.
o. _____ - to keep saying that something is true.

IX. Solve the riddle and guess the "speaking" verb.

- My first part means to *“examine, study”* and my second part is a synonym to *“company”*. _____
- My **first** part is a popular ***female name*** and my second part is a ***unit of weight.*** _____
- My **first** part is a short for ***representative*** and my second part means ***“to consume food”.*** _____
- My first part means *“former”* and my second part means to *“push”* (for example, a button). _____

Lesson 4

I. Pay attention to the following words:

vividly	живо, ярко, пылко
to precede [prɪ'siːd]	предшествовать
to threaten ['θret(ə)n]	грозить, угрожать
to doubt [daut]	сомневаться, быть неуверенным
assumptions	соглашения, условные допущения
complacency [kəm'pleɪs(ə)n(t)sɪ]	самодовольство
conformity	согласованность, подчинение
slavery	тяжелый труд, рабство
drab	однообразный, скучный, серый
violent	жесткий, насильственный
ratrace	бешеная погоня за богатством
shrug off	отделаться, прийти в себя
guidance ['gaɪd(ə)n(t)s]	руководство, управление
leisure ['leʒə]	досуг, свободное время
emphasis ['emfəsɪs]	выразительность, сила
annihilation [ə¸naɪə'leɪʃ(ə)n]	уничтожение, истребление
glorious	знаменитый, восхитительный
heritage	наследство, наследие
sanity	здравый ум, благоразумие
to bequeath [bɪ'kwiːð]	завещать

II. Read the title of the text and say what the text is about.

III. Read the text and find the sections which contain the answers to the true/false sentences.

1) the young are worse educated

2) no one new generation is different from the one that preceded it

3) what the young reject more than anything is conformity

4) traditionally, the young have not turned to their elders for guidance

5) the old can learn nothing from their children

6) enjoyment is not a principle one could apply to all aspects of life end is always sinful.

Text 4. THE YOUNGER GENERATION KNOWS BEST

Old people are always saying that young are not what they were. The same comment is made from generation to generation and it's always true. It has never been truer than it is today. The younger are better educated. They have a lot more

money to spend and enjoy more freedom. They grow up more quickly and are not so dependent on their parents. They think more for themselves and do not blindly accept the ideals of the elders. Events which the older generation remembers vividly are nothing more than past history. This is as it should be. Every new generation is different from the one that preceded it. Today the difference is very marked indeed.

The old always assume that they know best for the simple reason that they have been around a bit longer. They don't like to feel that their values are being questioned or threatened. And this is precisely what the young are doing. They are questioning the assumptions of their elders and disturbing their complacency. They take leave to doubt that the older generation has created the best of all possible worlds. What they reject more than anything is conformity. Office hours, for instance, are nothing more than enforced slavery. Wouldn't people work best if they were given complete freedom and responsibility? And what about clothing? Who said that all the men in the world should wear drab grey suits and convict haircuts? If we turn our minds to more serious matters, who said that human differences can best be solved through conventional polities or by violent means? Why have the older generation so often used violence to solve their problems? Why are they so unhappy and guilt-ridden in their personal lives, so obsessed with mean ambitions and the desire to amass more material possessions" Can anything he right with the retrace? Haven't the old lost touch with all that is important in life?

These are not questions the older generation can shrug off lightly. Their record over the past forty years or so hasn't been exactly spotless. Traditionally, the young have turned to their elders for guidance. Today, the situation might be reversed. The old - if they are prepared to admit it - could learn a thing or two from their children. One of the biggest lessons they could learn is that enjoyment is not 'sinful'. Enjoyment is a principle one could apply to all aspects of life. It is surely not wrong to enjoy your work and enjoy your leisure; to shed restricting inhibitions. It is surely not wrong to live in the present rather than in the past, or future. This emphasis on the present is only to be expected because the young have grown up under the shadow of the bomb: the constant threat of complete annihilation. This is their glorious heritage. Can we be surprised that they should so often question the sanity of the generation that bequeathed it?

IV. Look through the text and give the main idea of it. Choose the sentence of the given to express the main idea.

- the young should be grateful to older generation
- every generation is different
- the older generation is too soft and kind with the young
- live in the present, not the past or the future.

V. Discuss in pairs the advantages and disadvantages of being young nowadays. Give your arguments and counter-arguments.

VI. Read and retell the text.

A Letter to a Sweetheart

A young man was writing a letter to his sweetheart (*любимая*) who lived just a few miles away in a nearby town. He began to tell her how much he loved her and how wonderful he thought she was. But the more he wrote, the more poetical he became. Finally, he said that in order to be with her he would suffer the greatest hardships (*лишения*), he would face the greatest dangers that anyone could imagine. In fact, to spend only one minute with her, he would climb the highest mountain, he would swim the widest river, he would fight the fiercest (*свирепый*) animals. He signed his name, and then suddenly remembered that he had forgotten to mention something rather important. So, in a postscript below his name, he added: "By the way, I'll be over to see you on Wednesday night – if it doesn't rain".

UNIT II
THE ROLE OF A DESIGNER

Lesson 1

I. Pay attention to the following words:

tangible object	– осязаемый объект; материальный объект
accessible [ək'sesəbl]	– доступный; достижимый
to devise	– разрабатывать

beneficial	– выгодный
occupant	– житель; жилец; обитатель
ergonomics	– эргономика

II. Read the text.

Text 1. DIFFERENT TYPES OF DESIGNERS

A designer is a person who designs. In practice, anyone who creates tangible or intangible objects, products, processes, laws, games, graphics, services, and experiences is referred to as a designer.

Working as a designer usually implies being creative in a particular area of expertise. Designers are usually responsible for developing the concept and making drawings or models for something new that will be made by someone else. Their work takes into consideration not only how something will look, but also how it will be used and how it will be made.

Architect or architectural designer is primarily involved in the design of buildings or urban landscapes. Architectural designers have good creative skills, imagination and artistic talent.

Design engineer is a general term that covers multiple engineering disciplines including electrical, mechanical and civil engineering, architectural engineers in the U.S. and building engineers in the U.K.

Graphic designer is a professional within the graphic design and graphic arts industry who assembles together images, typography, or motion graphics to create a piece of design. A graphic designer creates the graphics primarily for published, printed or electronic media, such as brochures (sometimes) and advertising. A core responsibility of the designer's job is to present information in a way that is both accessible and memorable.

Package designer develops eye-catching, cost-effective and safe packaging for products. They usually brainstorm, sketch and re-design their concepts based on client needs.

Industrial designer creates and executes design solutions towards problems of form, usability, user ergonomics, engineering, marketing, brand development and sales.

Interior designer applies creative and technical solutions within a structure to achieve a built interior environment. These solutions are functional, enhance the quality of life and culture of the occupants, and are aesthetically attractive. They plan the spaces of almost every type of building including: hotels, corporate spaces, schools, hospitals, private residences, shopping malls, restaurants, theaters, and airport terminals.

Landscape designer/architect is a person involved in the planning, design and sometimes oversight of an exterior landscape or space.

Web designer creates presentations of content (usually hypertext or hypermedia) that is delivered to an end-user through the World Wide Web, by way of a Web browser or other Web-enabled software like Internet television clients, microblogging clients. They develop and style objects of the Internet's information environment to provide them with high-end consumer features and aesthetic qualities.

III. Find in the text the English equivalents:

разрабатывать курс действий; специфическая область экспертизы; охватывать различные технические дисциплины; продвижение торговой марки; присмотр за ландшафтом; создавать и реализовывать дизайнерские решения; собирать образы; корпоративные места; угождать покупателям; корпоративное начало.

IV. Find in the text similar expressions:

1. be engaged in/with
2. be in charge of
3. take into account
4. to supply (somebody) with (something)
5. to put together

V. Guess the adjective according to its definition.

1. having good imagination or original ideas.

2. Someone who is _____ is good at drawing or painting, or arranging things in a beautiful way.

3. *1)*accomplishing a desired aim or result; *2)* having achieved fame, wealth, or social status.

4. advantageous; favorable; resulting in good.

5. effective or productive in relation to its cost.

6. something that is useful for its intended purpose.

7. concerned with beauty and art and the understanding of beautiful things.

8. immediately noticeable because it is particularly interesting, bright or attractive.

VI. Match the words (A) and their definitions (B):

A	**B**
a) Design engineer; b) Architect or architectural designer; c) Graphic designer; d) Industrial designer; e) Interior designer; f) Landscape designer; g) Web designer.	**1)** a person who is a connoisseur in electricity, mechanics, civil engineering, architecture and building; **2)** a person who is involved in exploiting some exterior sights of a landscape or space; **3)** a person who develops and styles objects of the Internet's information environment to provide them with high-end consumer features and aesthetic qualities; **4)** a person who is engaged in the building's design or urban landscapes; **5)** a person who is concerned to create and execute design solutions towards problems of form, usability, user ergonomics, engineering, marketing, brand development and sales; **6)** a person who is responsible for typesetting, illustration, user interfaces, and web design and creates the graphics primarily for published, printed or electronic media; **7)** a professional who is competent in many disciplines that are connected with a built interior environment.

VII. Do you agree (disagree) with the statements? Why?

1. "I see an entrepreneur as the chief designer of a business that works better than any other." (Michael E. Gerber)

2. “How a designer gets from thought to thing is, at least in broad strokes, straightforward: (1) A designer conceives a purpose. (2) To accomplish that purpose, the designer forms a plan. (3) To execute the plan, the designer specifies building materials and assembly instructions. (4) Finally, the designer or some surrogate applies the assembly instructions to the building materials. What emerges is a designed object, and the designer is successful to the degree that the object fulfills the designer's purpose.” (William A. Dembski)

3. “When you have trouble with things whether it's figuring out whether to push or pull a door or the arbitrary vagaries of the modern computer and electronics industries it's not your fault. Don't blame yourself: blame the designer.” (Donald Norman)

4. “Reliable and transparent programs are usually not in the interest of the designer.” (Niklaus Wirth)

5. “A designer is an emerging synthesis of artist, inventor, mechanic, objective economist and evolutionary strategist.” (R. Buckminster Fuller)

VIII. Put the verbs in brackets in the correct form of the Present Simple or the Present Continuous.

1. _____ you _____ (*know*) anyone who _____ (*work*) abroad at the moment?

2. _____ you _____ (*study*) English for your work or for pleasure?

3. _____ you _____ (*think*) people _____ (*get*) more stressed these days?

4. _____ you usually _____ (*arrive*) late when you _____ (*go*) to parties?

5. _____ you _____ (*read*) anything interesting at the moment?

6. _____ you _____ (*think*) people _____ (*live*) longer these days?

Take turns to ask and answer the questions. Ask follow-up questions if possible.

Lesson 2

I. Pay attention to the following words:

to obey a law	– подчиняться закону, соблюдать закон
to interact with	– взаимодействовать с
fraudulent [ˈfrɔːdjələnt]	– обманный, мошеннический

responsibility purposefully	– ответственность – целеустремлённо

II. Read the text.

Text 2. EVERY DESIGNER NEEDS A CODE OF ETHICS

"Strong ethics keep corporations healthy. Poor ethics make companies sick. Values are the immune system of every organization." – Patrick Dixon

Many professions have codes of ethics, a common set of guiding principles that help people make fair decisions. Codes often protect both the worker and client from poor business practices.

Although there are various points in every code of ethics, most contain a key set of principles. Codes often outline the designer's responsibility to clients, how designers should interact with each other, the designer's responsibility to the public and environment, fees and compensation and basic conduct (including honesty and fair competition).

- ***Designer's responsibility to clients.***

The principle defines the basic way in which you will interact with clients. Concepts include conflicts of interest, confidentiality and professional responsibility and behavior. How you decide to interact with clients is important and will set the tone for who hires you and the reputation you earn in the industry.

- ***How designers interact with each other.***

How designers work with and interact with each other is just as valuable of a concept as working with clients. Items that are often covered by the principle include taking or working on projects started by other designers; fair and open competition in business; objectivity; honoring all others' work including copyrights, trademarks and other design property; and working within other relevant and generally accepted codes of conduct.

- ***Designer's responsibility to the public.***

Designers should also think about how they work, they produce can impact the people who will see it. Things to consider include taking projects that could result in some degree of harm to the public, the communicated message and its

truthfulness, mutual respect of the audience, discriminatory actions and obligation to serve the community.

- ***Fees and compensation.***

One of the things that classifies a professional design as such is the collection of fees and payment for work. A good code also outlines fees and payments, what kinds charges are acceptable, when taking a fee could cause potential conflict, how contracts should be maintained and honored, and provisions for estimates (if applicable).

- ***Basic conduct.***

Often ethical codes outline basic rules of professional conduct. This refers to understanding and obeying all applicable laws but also good and fair business practices. Some things to consider include the ability to accept gifts for work, refusing work that is unlawful or fraudulent and working (or refusing to work) on projects that are purposefully misleading or deceptive in a way that can cause harm.

III. Match the words from the text with the definitions.

1.	fee	**a)** moral principles that control or influence a person's behavior
2.	guidelines	**b)** the state of being forced to do something because it is your duty, or because of a law, etc.
3.	ethics	**c)** something that is misleading or that is presenting a lie
4.	discriminatory	**d)** closely connected with the subject you are discussing or the situation you are thinking about
5.	copyright	**e)** an amount of money that you pay for professional advice or services
6.	deceptive	**f)** a situation in which you expect somebody to keep information secret
7.	compensation	**g)** a set of rules or instructions that are given by an official organization telling you how to do something, especially something difficult
8.	relevant	**h)** the exclusive right to make copies, sell or market works of art, music and literature

9.	confidentiality	**i)** intended to cheat somebody, usually in order to make money illegally
10.	obligation	**j)** unfair; treating somebody or one group of people worse than others
11.	fraudulent	**k)** something, such as money, given or received as payment or reparation, as for a service or loss

IV. Complete the following table with the missing parts of speech.

Verb	**Noun**	**Adjective**
	employer	
interact		
		valuable
support		
	competition	
		acceptable
classify		
	respect	
protect		
consider		

V. Answer the questions.

1. What is a code of ethics?
2. What multiple codes might many design professionals follow?
3. How should a designer interact with customers?
4. How should designers interact with each other?
5. What's the designer's responsibility to the public and environment?
6. What are the basic rules of designers' professional conduct?

VI. Do you agree (disagree) with the statements? Why?

1. "A member **shall not belittle or denigrate** the work or reputation of another designer." – *AGDA Code of Ethics*
2. "There **shall be no undisclosed** rebates, discounts, gifts, or bonuses requested by or given." – *Graphic Artists Guild Code of Fair Practice*
3. "Design professionals **shall not**, in the conduct of their professional practice, knowingly or unknowingly **violate the law**. – *The Academy of Design Professionals Code of Professional Conduct*

4. "A design professional **shall not make misleading**, deceptive, or false statements or **claims** about their professional qualifications, experience, or performance." – *The Academy of Design Professionals Code of Professional Conduct*

5. "A professional designer **shall consider** environmental, economic, social and cultural **implications** of his or her work and minimize the adverse impacts." – *AIGA Standards of professional practice*

VII. Complete the questions with a preposition. Ask and answer the questions with a partner.

1. When you're with friends of the same sex, what do you usually talk _____?
2. Are there any sports or games that you're good _____?
3. Is there anything you're really looking forward _____?
4. Who in your family are you closest _____?
5. What kind of films are you keen _____?
6. Are there any animals or insects that you're afraid _____?
7. What is your town famous _____?
8. Are there any superstitions that you believe _____?

VIII. Complete the adjectives with -ed or -ing. Ask and answer the questions in pairs. Ask for more information.

- ✓ What do you think is the most **excit**___ sport to watch?
- ✓ What's the most **amaz**___ scenery you've ever seen?
- ✓ What music do you listen to if you feel **depress**___?
- ✓ Have you ever been **disappoint**___ by a birthday present?
- ✓ Which do you find more **tir**___, speaking English or listening to English?
- ✓ What's the most **embarrass**___ thing that's ever happened to you?
- ✓ Are you **frighten**___ of heights?
- ✓ Do you feel very **tir**___ in the morning?
- ✓ Who's the most **bor**___ person you know?
- ✓ Do you ever get **frustrat**___ by technology?

Lesson 3

I. Pay attention to the following words:

to sketch out	– изображать схематически; набросать
blueprint ['blu:prɪnt]	– план, проект; образец, шаблон
feasible ['fi:zəbl]	– осуществимый, возможный, выполнимый
Computer-aided design (CAD)	– автоматизированное проектирование, система автоматизированного проектирования, САПР
quality assurance	– гарантия качества, обеспечение качества

II. Read the text.

Text 3. THE PROFESSION OF AN INDUSTRIAL DESIGNER

An industrial designer develops the concepts for manufactured products, such as cars, home appliances, electronics. They combine art, business, and engineering to make products that people use every day. They work in offices in a variety of industries.

An industrial designer will typically do the following:

- research who will use the product and the various ways it might be used;
- sketch out ideas or create blueprints;
- use computer software to develop virtual models of different designs;
- examine materials and production costs to determine manufacturing requirements;
- work with other specialists to evaluate whether their design concepts will fill the need at a reasonable cost;
- evaluate product safety, appearance, and function to determine if a design is practical;
- present designs and demonstrate prototypes to clients for approval.

Industrial designers generally focus on a particular product category. For example, some design medical equipment, while others

work on consumer electronics products, such as computers or smart phones. Other designers develop ideas for new bicycles, furniture, housewares, or snowboards. They imagine how consumers might use a product and test different designs with consumers to see how each design looks and works.

Industrial designers often work with engineers, production experts, and marketing specialists to find out if their designs are feasible and to apply their colleagues' professional expertise to their designs. For example, industrial designers may work with marketing specialists to develop plans to market new product designs to consumers.

Computers are a major tool for industrial designers. They use computer-aided design software (CAD) to sketch ideas because computers make it easy to make changes and show alternatives. If they work for manufacturers, they may also use computer-aided industrial design software (CAID) to create specific machine-readable instructions that tell other machines exactly how to build the product.

III. Complete the following table with the missing parts of speech.

Verb	**Noun**	**Adjective**
require		
	consumer	
create		
	approval	
		specific
imagine		
	assurance	

IV. Complete the sentences below with the words from the box. Put the verbs in the appropriate form.

sketch create essential	feasible blueprint expertise	apply reasonable require

1. Is it economically _____ to implement these strategies in an efficient and effective way?

2. The government does not have a _____ for reform.

3. He nodded as she sat down at the desk and began _____ on the paper, explaining as she drew.

4. The mind will accept whatever the imagination _____, however bizarre.

5. An outsider will lack the necessary _____ to run the company.

6. We're worried that the new fees might discourage poorer students from _____.

7. His paintings were so unique as _____ no signature for identification.

8. Monitoring and evaluating environmental impacts was also _____.

9. We have _____ grounds for believing that you are responsible.

V. Do you agree (disagree) with the statements? Why?

1. One of the functions of an industrial designer is to bridge the gap between manufacturer and ultimate buyer.

2. A most important element for the consideration of the industrial designer is sales. There is only one reason for hiring an industrial designer, and that is to increase the sales of a product. (Joshua Gordon Lippincott)

3. The industrial designer is found in many fields of industry , which represent a wide diversity of manufactured products. Some of these fields are: automobiles, airplanes, boats, trains, trailers, trucks; vacuum cleaners, washing machines, toasters, electric fans, lamps; furniture, hardware, electrical equipment; china, glassware, pottery; silverware; garden implements; farm machinery; tools of all kinds.

4. If there is a designer whose name is synonymous with industrial design it is Raymond Loewy.

5. In brief the industrial designer is a fashion designer of industrial products and is called upon by industry and manufacturers to "style" their products or to "streamline" them.

6. There are many branches of manufacturing industry which greatly depend for their success upon the designer's art, and it is necessary that the industrial designer should possess a knowledge of the processes of the manufacture in which his designs will be utilized, as well as of the properties and capabilities of the material to which they will be applied.(Sir Philip Magnus)

VI. Work in pairs or small groups. Discuss how to make an effective presentation.

VII. Which of these suggestions do you agree with?

To make an effective presentation, you should:

- Find out as much as possible about your audience.
- Introduce yourself (name, position, company).
- Start with a joke.
- Outline the structure of your talk.
- Vary the tone of your voice.
- Refer to your notes as often as possible.
- Use clear visual aids.
- Summarise your main points.

VIII. Make a presentation about any industrial designer you admire.

IX. In small groups discuss if the statements opposite about men and women are stereotypes or true.

MEN • WOMEN

STEREOTYPES OR TRUE?

• Women worry more about their appearance than men.
• Women spend more time than men on social networking sites.
• Men talk more about things; women talk more about people.
• Men are more interested than women in gadgets like phones and tablets.
• Women are better at multitasking than men.
• Men find it more difficult than women to talk to their friends or family if they have a problem.
• Women spend more time than men talking about celebrities and their lifestyles.
• Men are more interested than women in power.
• Women are less interested in sport than men.
• Men worry more about their health than women.

Lesson 1

I. Pay attention to the following words:

achievement [ə'ʧi:vmənt]	достижение, успех
reputable	почтенный, уважаемый
leap	прыжок, скачок
mankind	человечество
humble	простой, скромный
to treble	утраиваться
greed	жадность, скупость
abuse [ə'bju:s]	оскорбление; надругательство
blade	былинка, лист
famine	голод

II. In the text, the journalist, Ann Halliday, describes what are for her the seven wonders of the modern world. Read about them.

Text 1. WONDERS OF THE MODERN WORLD

by Ann Halliday

I don't believe that today's wonders are similar in kind to the wonders of the Ancient World. They were all buildings and statues. In the last two centuries we have seen unprecedented technical and scientific achievements. These are surely our modern wonders. Here is my list.

1 Computers

They have already revolutionized the way we live and work. But it is early days for computers. We don't know how much they are still changing the world. More computer wonders are yet to come.

2 Space Travel

Only a few years before men were walking on the moon, reputable scientists declared that it was impossible. **But** in 1969 Neil Armstrong stepped out of his space capsule and made his famous statement: “That's one small step for a man, one giant

leap for mankind".

3 Medical Science

Surely nothing has done more for the comfort and happiness of mankind than the advance of medical knowledge! How many millions of people have benefited from the humble aspirin? How many lives has penicillin saved? Average life expectancy in Europe, has risen dramatically over the last hundred years, from about 50 years in 1906 to about 75 years today

4 Holidays

Yes – holidays! In fact there have always been holidays – in ancient Rome there were more than 150 a year – but a holiday used to mean simply a day when you didn't work. Now holidaymakers travel to all parts of the world. Perhaps you don't like so many tourists in your country, but you must agree that a phenomenon which sees the population of Greece treble in summer, and which sends office workers and shop assistants to Spain, Turkey, or the Caribbean is a wonder of the world.

5 The Olympic Games

It is true that the Olympic Games are now commercialized and there is greed and drug abuse. However, it is a competition in which every country in the world takes part. Every four years, for a brief moment, we see these countries come together in peace and friendship. We feel hope again for the future of mankind.

6 Agriculture

In 1724, Jonathan Swift wrote, "Whoever makes two blades of grass or two ears of corn grow where only one grew before serves mankind better than the whole race of politicians". In Europe our farmers have done this. In 1709, whole villages in France died of hunger. Now in Europe we can't eat all the food we produce. If only the politicians could find a way to share it with those parts of the world where there is still famine.

7 We are still here

The last wonder of the modern world is simply that we are still here. We have bombs that could destroy the world but we have not used them. This is surely the greatest wonder of all!

III. Here are seven more statements made by Ann about her choice of wonders. Which statement goes with which wonder? Discuss your answers with a partner.

a. Surgeons can perform the most amazing operations.
b. We see people from warring countries shake hands.
c. Small children can program them, sometimes more easily than adults!
d. No government dares to use such weapons.
e. Maybe visiting one country a day is not your idea of the best way to see the world!
f. We produce enough to feed the world.
g. Progress in this area is slower now. Not as much money goes into research as in the 1960s.

IV. Complete the following with the correct auxiliary verb in the positive or negative form. Check your answers with the text.

1. Computers _____ already revolutionized the way we live and work.
2. We _____ know how much they _____ still changing the world.
3. Only a few years before men _____ walking on the moon, scientists said that it was impossible.
4. How many lives _____ penicillin saved?
5. A holiday used to mean a day when you _____ work.
6. The Olympic Games _____ now commercialized.

V. Find words with the negative value:

true, unusual, important, disappearance, incapable, information, undiscovered, capable, untrue, changing, usual, undetected, unimportant, appearance, detected, discovered, intention, possible, include, impossible, disadvantages, imagine, unchanging.

VI. Translate the sentences and pay attention to the marked out words.

1. In the past «Engineer» meant a designer of engines. **2.** The word «a means» means «средство». **3.** The meaning of «telemetry» is «measuring at a distance» and is a combination of Greek and Latin words. **4.** By means of satellites we can communicate with any country of the world. **5.** There were no means of direct communication before the telephone was invented. **6.** By communication we mean

various ways to send information. **7.** Scientists reported that we had technical means to use more channels on a TV set. **8.** The importance of space means of communication is increasing every year. **9.** By what means is speech transmitted over a distance? **10.** By means of telephone people communicate with each other at great distances. **11.** The mean distance between these two objects is not known yet.

VII. Read and retell this text.

A Story Too Terrible To Tell

Three men came to New York for the first time. They took a room in a hotel. In the evening they went sight-seeing and did not come back till nearly three in the morning. The room they had taken was on the 43rd floor. "I am sorry, gentlemen", said the porter, "but the elevator does not work, there is something wrong with it. You will have to walk up to your room". This was too bad, but the men agreed to tell stories on the way up in order to kill the time.

By the time the first one had told his story, they had climbed up to the 11 th floor. The next story kept them amused till they had reached the 31st floor. At last it was time for the third man to tell his story, but he refused. He said the story he had in mind was too terrible, he simply couldn't tell it. They continued climbing and all the time the two asked him to begin. At last they stopped and refused to go on unless he told them his terrible story. "The story I have to tell you is a short one", he said at last, "we have left the key to our room downstairs with the porter".

Lesson 2

I. Pay attention to the following words:

accurately	точно
equipment	оборудование; оснащение
item	элемент
to supply	снабжать (чем-л.), поставлять
device	устройство, приспособление
to display	показывать; демонстрировать
processed	обработанный
permanent	долговременный

II. Read the text attentively and find the answers to the following questions.

- What are computers?
- What operations do computers perform?
- A computer doesn't think, does it?
- Is a computer a simple electronic machine? Why / why not?

Text 2. MODERN COMPUTERS

Computers are electronic machines. They communicate with the user, perform different kinds of arithmetic operations, such as addition, subtraction, division and multiplication, solve a series of logical problems and make thousands of logical decisions. Modern computers operate quickly and accurately. However, they don't think.

Every computer consists of software and hardware. Information in the form of programs and data is called software, but the pieces of equipment that make up the computer system are known as hardware.

The most important item of hardware is the CPU (Central Processing Unit). This is the electronic unit at the center of the computer system. The brain of the computer is the processor. It does all the processing and controls all the devices in the computer system. The main memory stores all the programs and data used by the processor.

All the other devices in the computer system are known as peripherals. These include input devices, output devices and storage devices. An input device supplies information into the computer. The most commonly used input device is a keyboard. An output device such as a monitor or a printer displays the processed data. A storage device is used for the permanent storage of information on CD-ROM discs.

III. Cross out the odd word.

- ✓ processor, main memory, software
- ✓ input device, data, storage device
- ✓ monitor, CD-ROM disc, printer
- ✓ hardware, program, data

IV. Match the component with the function. Look through the text to check your answers.

a component	*a function*
1. Storage device	**a.** It displays the processed data.
2. Input device	**b.** It holds the programs and data, which the processor uses.
3. Output device	**c.** It does all the processing and controls the peripherals.
4. Main memory	**d.** It provides permanent storage.
5. Processor	**e.** It enters data.

V. Translate the sentences into English using your active vocabulary.

1. Какие операции выполняет компьютер?
2. Компьютер не думает, не так ли?
3. Компьютер выполняет многие виды расчетов быстро и точно.
4. Студенты технических вузов часто выполняют математические операции при помощи компьютера.
5. Компьютер получает, хранит и обрабатывает информацию.
6. Мы используем разные виды компьютеров, не так ли?
7. Компьютеры состоят из программного и аппаратного обеспечения.

VI. What part of speech do the words belong to?

Superconductivity, superconductive, quality, century, qualitative, qualitatively, quantity, future, quantitative, quantitatively, pure, purity, manufacture.

VII. Read and translate the text without dictionary.

Let's look at the progress the computers have made in their development. Besides the great changes in size and speed, we now have machines which change numbers into pictures, words and sounds. The next big change will be when we get computers that will understand human language. But now if you want to program your own computer, you must learn its language. It does not understand yours. For example you talk with an Englishman. You make one small grammar mistake «have» instead of «has». The man understands what you mean and the talk goes

on. But if you make even the smallest mistake in computer language, the talk breaks down and you must go back to the beginning.

Lesson 3

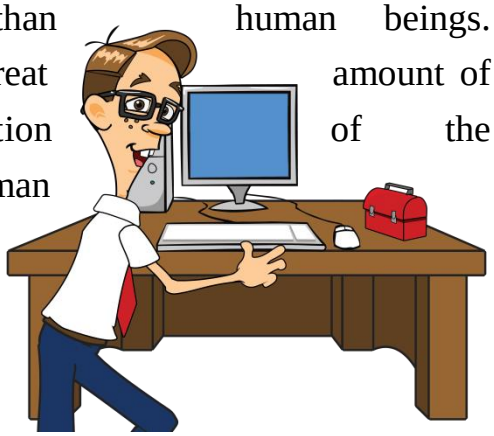
I. Pay attention to the following words:

to concern	касаться
to invent	изобретать, создавать
descendant [dɪ'sendənt]	потомок
to store	запоминать
fraction	доля, порция, часть, дробь
to require	нуждаться; требовать
microfiche ['maɪkrə(u)fi:ʃ]	микрофише, диамикрокарта
beam	луч
to enable[ɪ'neɪbl]	давать возможность
to adjust	регулировать
accordingly	соответственно

II. Read the text and find out all information about the ways in which computers concern people in their daily lives and work.

Text 3. COMPUTERS CONCERN YOU

When Ch. Babbage, a professor of mathematics at Cambridge University, invented the first calculating machine in 1812, he could hardly have imagined the situations we find ourselves in today. Almost everything in modern world is done with the help of computers – the complicated descendants of his simple machine. Computers are being used more and more extensively in the world today, for the simple reason that they are far more efficient than human beings. They have much better memories and can store great amount of information and they can do calculations in a fraction of the time required by a human mathematician. No man alive can do 500,000 sums in one second, but a modern computer can.



In fact, computers can do many things we do, but faster and better. They can control

machines at factories, work out tomorrow's weather and even play chess, write poetry or compose music. Let's look now at some of the ways in which computers concern people in their daily lives and work.

Many people associate computers with the world of science and mathematics, but they are also a great help to scholars in other subjects: in history, literature and so on. It is now possible for a scholar to find a book or an article he needs very quickly, which nowadays when a million or more new books are published each year is quite an advantage. You tell the computer which subject you are interested in and it produces any microfiche you need in seconds.

There are also systems which are being developed to translate articles from foreign magazines by computer and to make up many lists of information which are needed in a modern library. So, computer can help us to deal with the knowledge explosion in many ways. One can imagine a time when libraries will be run by computers, without human beings at all.

Or, let's take another example. When a man drives a car for long distances he has two problems: to keep the car at a constant speed and watch that he does not run into the car in front of him. Engineers are now experimenting with a system which has a computer control of these two problems. The car's computer keeps the speed constant. At the same time the distance between the car and any other car in front of it is measured by a beam of light transmitted forwards. The beam meets the rear reflectors of the car in front and it is reflected back, which enables to measure the distance. This information is fed to the computer which adjusts its speed control accordingly.

III. Find in the text and translate all attributive clauses.

IV. Complete the sentences! Use the words below.

1. Almost everything in modern world is done with the help of …. **2.** Computers are being used more and more … in the world today, for the simple reason that they are far more … than human beings. **3.** They have much … and can store great amount of information. **4.** Computers can do many things we do, but … and …. **5.** It is now possible for a scholar to find … he needs very quickly, which nowadays is quite an advantage. **6.** There are also systems which are being developed to … articles from foreign magazines by computer. **7.** Computer can help us to deal with the … in many ways.

translate, extensively, knowledge explosion, computers, faster, better, efficient, better memories, a book or an article

V. Mach the synonyms.

1. to make faster	a. many
2. able	b. supercomputer
3. a lot of	c. to improve
4. at present	d. capable
5. to make better	e. nowadays
6. to be different from	f. to increase
7. it takes	g. to differ
8. a computer which does all operations simultaneously	h. it requires

VI. Find out antonyms.

Simple, untrue, begin, sophisticated, reliable, efficient, close to, true, complete, low, disadvantage, far from, high, unreliable, inefficient, advantage.

VII. Read and translate the sentences.

- Hardware means the different types of equipment a computer consists of.
- A computer's hardware comprises a central processing unit (CPU) which is the heart and brain of the computer.
- Input and output devices capable of putting information into a computer and getting it out of it are types of peripheral equipment. Peripherals are the units connected to the CPU: input devices, output devices and storage devices.
- The simplest and most common type of input device is a keyboard, containing a typewriter keyboard.
- A laser printer is a kind of output device to print information.
- Software means the programs needed to operate computer equipment.
- These programs are on disks, the nard disks inside the computer, or on CD-ROMs, that is, Compact Disk Read Only Memory, which you can put on or store a large amount of information.
- A word processor is a computer used to write documents, letters and reports, or the software that is used for this purpose.

- Databases are programs, which allow you to store, look at or change a large quantity of information quickly and easily.
- Graphics are pictures and symbols a computer program can produce.
- A bug possible in a computer operation, also a virus is a software problem or error in a program. Debugging means correcting program errors or bugs.
- People send e-mail (electronic mail) messages with the help of the Internet, a system that lets computers connect by telephone lines.
- A laptop is a portable computer weighing about 2–4 kg.
- With a device called the mouse you can do a number of things by clicking on different icons.
- Clicking is a basic mouse action to place a cursor to close a window, etc.
- An icon is a small picture representing an object, process or function.

VIII. Match the English words with the Russian equivalents.

1. database	**a.** доступный
2. to consist of	**b.** программное обеспечение
3. permanent	**c.** оборудование
4. software	**d.** база данных
5. to receive	**e.** проектировать
6. available	**f.** хранить
7. complicated	**g.** получать
8. development	**h.** исследование
9. to design	**i.** состоять из
10. research	**j.** сложный
11. to store	**k.** долговременный
12. equipment	**l.** развитие

Lesson 4

I. Complete the table.

memory		funcion	
	сложный	to display	
calculation			различный
research		to consist of	

	наука	to operate	
quickly			важный
	оборудование		мозг
	клавиатура	to enter	
purpose		permanent	
device			контролировать
	символ	development	
circuit		available	
to complete			вирус
	быстрый	message	
	выполнять	laptop	

II. Translate the text into Russian. Use if necessary a dictionary.

In the 1980s some scientists predicted: “By the year 2000 we will have a network planet. In offices, shops, factories and homes there will be small machines that will help us communicate with distant computers. We will ask them questions, perform calculations and enter data that computers will store, process and act upon. Probably all the professions will have their own data banks. People will use home terminals for education, planning vocation and sheer entertainment. They will buy theatre tickets, airline tickets, and manage their bank accounts with the help of Internet”.

All this is reality nowadays. But the potential uses of computers are still endless. Today scientists predict that we will have machines that are as intelligent as we are. Here are some of their predictions:

- cars will report good and safe driving;
- a TV set will choose programs that the viewer enjoys. Better yet, it will not repeat annoying commercials;
- a house will sense the mood of its owner: the coffee machine will kick in (=start working) when it’s needed.

III. Speak about new developments in computers.

IV. Make sentences out of the two parts.

1. Nowadays electronic devices

1. airplanes, ships, trains and cars having built-in electronic circuits and

2. We are surrounded

3. There are

4. A personal computer

5. People are carried by

6. The modern production is unthinkable

7. It is impossible to imagine

instruments.

2. is being used more widely at home and in office.

3. without electronically controlled machine-tools.

4. with electronics everywhere in everyday life and at plants and factories.

5. scientific research without computers.

6. are in general usage.

7. electronic watches we wear, telephone, radio, and TV sets we speak, listen to and watch.

V. Restore the necessary information.

Computers are complex electronic machines. They perform arithmetic … such as …, …, …, … and make thousands of logical …. All modern computers … quickly and ….

Computers consist of software and …. Software includes … and data. Hardware contains the Central … Unit and the peripherals.

The processor is the … of the computer. It … all the processing. The … memory … all the programs and data used by the ….

On input device … information into the ….

On output device … the processed data.

A … device is used for the … storage of information.

VI. Read and learn this text.

Text 4. TECHNIC AROUND US

Today the word "electronics" is in general usage. Millions of people have electron watches. There are a lot of various radio and TV sets in our houses. In factories and plants we are surrounded with electronically controlled machines and instruments, we are carried by airplanes, ships, trains and cars with built-in electronic devices. In other words, we are living in an electronic world, the center of which is an integrated circuit.

Computers are electronic machines. They have made a huge progress in their development. Besides the great change in size and speed, we now have machines which change numbers into pictures, words and sounds. They are being used more and more extensively in the world today, for the simple reason that computers are far more efficient than human beings. They have much better memories and can store great amount of information and they can do calculations in a fraction of the time required by a human mathematician. In fact, computers can do many things we do, but faster and better. They can control machines at factories, work out tomorrow's weather and even play chess, write poetry or compose music. Almost everything in modern world is done with the help of computers.

VII. Translate the sentences into English using your active vocabulary.

1. Какие операции выполняет компьютер?
2. Информация, которую отправляют по Интернету, проходит самый короткий путь от одного компьютера к другому.
3. Компьютерная сеть Интернет охватывает миллионы пользователей.
4. Любые два компьютера в сети Интернет связаны друг с другом до тех пор, пока они находятся в сети.
5. Компьютер получает, хранит и обрабатывает информацию.
6. Этот профессор разработал новое устройство для вычислений.

UNIT IV
DESIGN

Lesson 1

I. Pay attention to the following words:

cognitive science	- когнивистика; наука о мышлении
means to an end	- средства для достижения какой-л. цели
sketch	- эскиз; набросок; зарисовка
aesthetic [iːs'θetɪk] –	- эстетический
dimensions	- размеры
adjustment	- регулирование, приспособление

corporate identity	- фирменный стиль (набор визуальных, словесных и т. п. констант, обеспечивающий стилистическое единство товаров, услуг и всей исходящей от фирмы информации)
concept designer	- разработчик концептуальных решений
web designer	- разработчик/дизайнер web-страниц

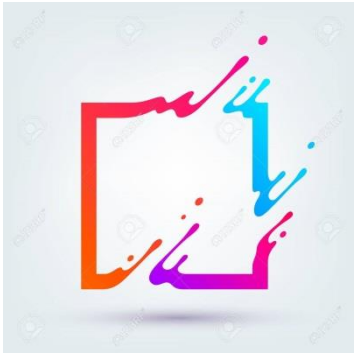
II. Read the text.

Text 1. DEFINING DESIGN

"Good design is a renaissance attitude that combines technology, cognitive science, human need and beauty to produce something that the world didn't know it was missing." – Paola Antonelli

Design has a range of definitions:

- a mental project or scheme in which means to an end are laid down;
- the general arrangement of the different parts of something that is made, such as a building, book, machine, etc.;
- a drawing or plan from which something may be made;
- a preliminary sketch or outline showing the main features of something to be executed;
- the arrangement of elements or details in a product or work of art.



Design is the planning that lays the basis for the making of every object or system. In a broader way, it means applied arts and engineering. As a verb, "to design" refers to the process of originating and developing a plan for a product, structure, system, or component with intention. As a noun, "a design" is used for either the final (solution) plan (e.g. proposal, drawing, model, description) or the result of implementing that plan in the form of the final product of a design process.

Designing often necessitates considering the aesthetic, functional, economic, and sociopolitical dimensions of both the design object and design process. It may involve considerable research, thought, modeling, interactive adjustment, and re-design. Meanwhile, diverse kinds of objects may be designed,

including clothing, graphical user interfaces, skyscrapers, corporate identities, business processes, and even methods of designing.

The person designing is called a designer, which is also a term used for people who work professionally in one of the various design areas, usually also specifying which area is being dealt with (such as a fashion designer, concept designer, web designer or interior designer). A designer's sequence of activities is called a design process. The scientific study of design is called design science.

III. Match the words from the text with the definitions.

1.	sketch	a) a description of the main facts or points involved in something
2.	scheme	b) a small change made to something in order to correct or improve it
3.	dimension	c) to think of or produce a new idea, product, etc. and make it successful
4.	outline	d) a plan or system for doing or organizing something
5.	adjustment	e) a set of events, actions, numbers, etc. which have a particular order and which lead to a particular result
6.	develop	f) to put (a decision, plan, agreement, etc.) into effect
7.	drawing	g) a plan or preparation that you make so that something can happen
8.	sequence	h) a simple picture that is drawn quickly and does not have many details
9.	arrangement	i) a measurement in space, for example the height, width or length of something
10.	implement	j) a picture made using a pencil or pen rather than paint

IV. Complete the sentences below with the words from the box.

applied arts	*dimensions*	*arrangement*
sketch	*aesthetic drawing*	*adjustment*

1. Maybe it was time they started paying more attention to the ……value of things.

2. The process of ……to life in another country can be very difficult.

3. The ……are the application of design and decoration to everyday objects to make them aesthetically pleasing.

4. His measurements of the …… of the room were not very accurate.

5. These days, designers spend more time at the computer than at the …… board.

6. If you want to sit down with me for a quick second, I can do a …….

7. You can change the …… of the furniture if you want.

V. Select correct answers from the following.

1. Designer often:

a) is free of any obligation toward clients;

b) is only required to consider aesthetic aspect of an object or a process;

c) must know a universal language for designers;

d) is required to consider functional, aesthetic and other aspects of an object or a process.

2. The term "design":

a) can be applied to physical objects only;

b) can be applied to industrial processes only;

c) is practically limitless and can be applied to anything, even virtual concepts;

d) has a very narrow definition, and can only be applied in rare occasions.

3. To learn a universal language of designers, one must:

a) graduate from an accredited university;

b) have a degree in architecture;

c) have an experience in interior design work field;

d) there is no universal language or unifying institution for designers of all disciplines.

VI. Do you agree (disagree) with the statements? Why?

1. "Art has to move you and design does not, unless it's a good design for a bus." (*David Hockney*)

2. "If you love what you do and are willing to do what it takes, it's within your reach. And it'll be worth every minute you spend alone at night, thinking and

thinking about what it is you want to design or build. It'll be worth it, I promise." (*Steve Wozniak*)

3. "It is one thing to coolly design a portfolio strategy on a sheet of paper or computer monitor, and quite another to actually deploy it." (*William Bernstein*)

4. "I believe that architects should design gardens to be used, as much as the houses they build, to develop a sense of beauty and the taste and inclination toward the fine arts and other spiritual values." (*Luis Barragán*)

5. "Good design is also an act of communication between the designer and the user, except that all the communication has to come about by the appearance of the device itself. The device must explain itself." (*Donald Norman*)

VII. Work in groups. Think about what you usually do if you:

- feel a bit depressed;
- get a cold;
- can't get to sleep;
- feel stressed;
- have too much work to do.

- *If I feel a bit depressed, I eat chocolate and watch TV! ...*

Lesson 2

I. Pay attention to the following words:

to underpin	- поддерживать, подкреплять
to yield	- производить; приносить; давать; приводить (к чему-л.)
negotiable – [nɪ'gəuʃɪəbl]	- могущий быть предметом переговоров
redesign	- реконструкция, переделка, модернизация, переработка
the management of constraints	- теория ограничений (*theory of constraints*) – популярная концепция менеджмента, разработанная в 80-х гг. XX в. Теория предлагает концентрировать организационные ресурсы на устранении ограничений (конфликтов), которые мешают компании полностью реализовать её потенциал. Позволяет успешно разрешать множество

	противоречий: между сроками и качеством, стоимостью и затратами, требуемой производительностью и имеющимися ресурсами

II. Read the Text.

Text 2. DESIGN AS A PROCESS

Design as a process can take many forms depending on the object being designed and the individual or individuals participating.

Design underpins every form of creation from objects such as chairs to the way we plan and execute our lives. For this reason it is useful to seek out some common structure that can be applied to any kind of design, whether this be for video games, consumer products or one's own personal life.

For such an important concept, the question “What is Design?” appears to yield answers with limited usefulness. Dino Dini, video game developer states that the design process can be defined as *“The management of constraints”*. He identifies two kinds of constraint, negotiable and non-negotiable. The first step in the design process is the identification, classification and selection of constraints. The process of design then proceeds from here by manipulating design variables so as to satisfy the non-negotiable constraints and optimizing those which are negotiable.

It is possible for a set of non-negotiable constraints to be in conflict resulting in a design with no solution; in this case the non-negotiable constraints must be revised. For example, take the design of a chair. A chair must support a certain weight to be useful, and this is a non-negotiable constraint. The cost of producing the chair might be another. The choice of materials and the aesthetic qualities of the chair might be negotiable. Dino Dini theorizes that poor designs occur as a result of mismanaged constrains.

There is also a concept of *redesign*. Something that is redesigned requires a different process than something that is

designed for the first time. A redesign often includes an evaluation of the existent design and the findings of the redesign needs are often the ones that drive the redesign process.

III. Match the English verbs with the Russian equivalents.

1. to underpin	a) появляться, возникать
2. to execute	b) удовлетворять
3. to apply	c) определять, давать определение
4. to appear	d) осуществлять
5. to define	e) требовать, нуждаться
6. to proceed	f) направляться, исходить
7. to satisfy	g) управлять
8. to occur	h) поддерживать
9. to drive	i) происходить, совершаться
10. to require	j) применять, использовать

IV. Match the words from both columns to make word combinations. Translate them into Russian.

1. to take	a) the design of business processes
2. to seek out	b) the aesthetic and functional aspects
3. to include	c) some common structure
4. to describe	d) an evaluation of the existent design
5. to consider	e) many forms

V. Choose correct answers from the following.

1. *Dino Dini in his definition of design process identifies:*

a) three kinds of constraints – physical, mental and spiritual;

b) three types characteristics – weight, volume, and concentration;

c) two types of constraints – negotiable and non-negotiable;

d) two types of characteristics – financial and industrial.

2. *Design process according to one video game developer can be defined as:*

a) “The management of characteristics”;

b) “The management of cost production”;

c) “The invention planning”;
d) “The management of constraints”.

3. *An evaluation of the existent design is often included in which process:*

a) projection;
b) financial planning;
c) bank loan application;
d) redesign.

4. According to Dino Dini, the first step in design process is:

a) finding an investor interested in the project;
b) finding clientelle for the future product;
c) classification, identification and selection of constraints;
d) identification, prioritizing and selection of characteristics.

VI. Say whether these sentences are true or false.

1. According to Dino Dini's theory, the second step of the design process is manipulating design variables so as to satisfy negotiable constrains and optimizing those which are non-negotiable.
2. Design with no solution can be a result of conflict within a set of nonnegotiable controls.
3. Design process depends on the object under design and/or individuals participating, and can take many forms.

VII. Choose the correct word to complete each sentence.

1. Design ... every form of creation from objects to the way we execute our lives:
a) bears;
b) supports;
c) develops;
d) encourages.
2. A redesign often … an evaluation of the existent design:
a) results in;
b) contains;
c) remakes;
d) produces.
3. The process of design then … from here by manipulating design variables:

a) computes;
b) intrigues;
c) continues;
d) entangles.

4. The question "What is Design" appears to … answers with limited usefulness:
a) build;
b) imagine;
c) yell;
d) grant.

VIII. Complete the sentences using the wordlist below.

1. Design as a process can take … depending on the object being designed and the individual participating. **2.** Design is the planning that lays the basis for … or system. **3.** "Process design" refers to the planning of routine steps of … aside from the expected result. **4.** Something that is redesigned requires a different process than something that …. **5.** The first step in the design process is the … of constraints. **6.** … is called a designer, which is also a term used for people who work professionally in one of the various design areas. **7.** Designing often requires a designer to consider the aesthetic, functional and … or a process. **8.** Serious study of design demands … on the design process.

The person designing; the making of every object; is designed for the first time; many forms; a process; increased focus; identification, classification and selection; many other aspects of an object.

Lesson 3

I. Pay attention to the following words:

Victor Papanek	– an American designer
aesthetics [iːsˈθetɪks]	– эстетика
to measure performance	– оценить эффективность работы
to refine	– усовершенствовать, улучшать

II. Read the text.

Text 3. STEPS OF THE ENGINEERING DESIGN PROCESS

"Design is basic to all human activities –
the placing and patterning of any act towards
a desired goal constitutes a design process." – Victor Papanek

The engineering design process is a series of steps that engineers follow to come up with a solution to a problem. Many times the solution involves designing a product (like a machine or computer code) that meets certain criteria and/or accomplishes a certain task.

The steps of the engineering design process are to:

- identify the problem;
- specify requirements (specify the design requirements (criteria) and limits on the design due to available resources and the environment (constraints));
- brainstorm solutions;
- choose a solution;
- build a prototype;
- test and evaluate;
- redesign to improve.

To determine how to build a product or a process, engineers must first identify and define the problem to be solved and develop design specifications and goals. Then, they must creatively use their understanding of math and science to brainstorm many possible solutions to the problem and to compare the ideas. In order to select the most promising idea, mathematical models are often used to predict product performance and aid in decision making. In addition to performance, there are many other important factors that may influence the idea that is chosen. These often include cost, safety, quality, reliability, aesthetics, ethics and social or environmental impact. Inevitably, compromises must be made to achieve the best balance of these factors. Engineers create a prototype, or early version of the design, once an idea is chosen. The prototype is tested and evaluated to measure performance and then refined to make improvements. Since engineering design is performed by teams, effective communication is central to all the steps in the process.

III. Make all possible derivatives from the given words (nouns, verbs, adjectives, negative forms, etc.).

Involve, accomplish, compare, select, evaluate, science, effective, quality, decision.

IV. Match the words from the text with the definitions.

1.	reliability	**a)**	to judge the value or worth of someone or something.
2.	brainstorm	**b)**	to succeed in doing or completing something
3.	refine	**c)**	to say in advance (what one believes will happen); foretell (a future event or events)
4.	evaluate	**d)**	to think about and try to come up with ideas or solutions to a problem, either on your own or in a group
5.	constraint	**e)**	the quality of being able to work or operate for long periods without breaking down or needing attention
6.	predict	**f)**	something that imposes a limit or restriction or that prevents something from occurring.
7.	accomplish	**g)**	to improve something by making small changes to it

V. Match the words from both columns to make word combinations. Translate them into Russian.

1.	to specify	**a)**	a solution to a problem
2.	to accomplish	**b)**	certain criteria
3.	to come up with	**c)**	requirements
4.	to make	**d)**	a certain task
5.	to meet	**e)**	design specifications
6.	develop	**f)**	improvements

VI. Complete the sentences below with the words from the box.

accomplish	*come up with*	*identify*
solution	*brainstorm*	*compared*
redesign	*constraint*	

1. I …… his picture to the images from surveillance cameras all around the city.

2. I need to ……something creative and I need it fast.

3. In many cases, the clothes people wear ……them as belonging to a particular social class.

4. We need to make sure that it is a realistically workable …….. .

5. You see, I am anxious to ……as much as possible before the long summer vacation begins.

6. A major …… on achieving these goals is the overall lack of resources.

7. There has not been an update by me for a while, but I am actually doing yet another …… of my weblog.

8. People come together and you get more of a …… than you do on your own.

VII. What do you know about Future time clauses? Complete these sentences in a way which is true for you.

1. As soon as I get home today, I …

2. If I have any phone messages, I …

3. Before I go to bed tonight, I …

4. I want to study English until …

5. I'm going to … this weekend unless …

6. When I retire, I think I …

7. I'll be very happy if …

8. I might move house when …

Lesson 4

I. Pay attention to the following words:

holistic	– целостный, глобальный
Kiss principle	– принцип «не усложняй»; «кисс-принцип» (принцип упрощения конструкции или работы)
ergonomics	– эргономика (изучение трудовых процессов и условий труда, а также возможности человека при выполнении различных видов работ)
Use-centered design	– дизайн, сосредоточенный на цели
User-centered design	– дизайн, сосредоточенный на потребителе

II. Read the text.

Text 4. APPROACHES TO DESIGN

There are countless philosophies for guiding design as the design values and its accompanying aspects within modern design vary, both between different schools of thought and among practicing designers. Design philosophies are usually for determining design goals. A design goal may range from solving the least significant individual problem of the smallest element, to the most holistic influential utopian goals. Design goals are usually for guiding design. However, conflicts over immediate and minor goals may lead to questioning the purpose of design, perhaps to set better long term or ultimate goals.

A design philosophy is a guide to help make choices when designing such as ergonomics, costs, economics, functionality and methods of re-design. An example of a design philosophy is “dynamic change” to achieve the elegant or stylish look you need.

A design approach is a general philosophy that may or may not include a guide for specific methods. Some are to guide the overall goal of the design. Other approaches are to guide the tendencies of the designer. A combination of approaches may be used if they don't conflict.

There are some popular approaches.

KISS principle, (Keep it Simple

Stupid), which strives to eliminate unnecessary complications. The KISS principle states that most systems work best if they are kept simple rather than made complicated; therefore simplicity should be a key goal in design and unnecessary complexity should be avoided.

Use-centered design, which focuses on the goals and tasks associated with the use of the artifact, rather than focusing on the end user.

User-centered design, which focuses on the needs, wants, and limitations of the end user of the designed artifact.

Critical design uses designed artifacts as an embodied critique or commentary on existing values, morals, and practices in a culture. This kind of design uses design fiction and speculative design proposals to challenge assumptions, conceptions about the role of objects play in everyday life. It is popularized by Anthony Dunne and Fiona Raby through their firm, Dunne & Raby.

Service design is designing or organizing the experience around a product, the service associated with a product's use.

III. Complete the following table with the missing parts of speech.

Verb	Noun	Adjective
vary		
	purpose	
		different
complicate		
	choice	
		speculative
	combination	

IV. Guess the word according to its definition.

1. The intention, aim or function of something; the thing that something is supposed to achieve – ….

2. An object that is made by a person, especially something of historical or cultural interest – ….

3. Relating to the idea that things should be studied as a whole and not just as a sum of their parts – ….

4. Having a strong belief that everything can be perfect, often in a way that does not seem to be realistic or practical – ….

5. The study of working conditions, especially the design of equipment and furniture, in order to help people work more efficiently – ….

V. Match the words from both columns to make word combinations. Translate them into Russian.

1.	to determine	**a)**	the least significant individual problem
2.	to focus	**b)**	the elegant or stylish look
3.	to challenge	**c)**	unnecessary complications
4.	to solve	**d)**	design goals
5.	to eliminate	**e)**	assumptions
6.	to achieve	**f)**	a guide for specific methods
7.	include	**g)**	on the goals and tasks

VI. Say whether these sentences are true or false.

1. In Kiss approach, KISS stands for Keep it Severely Simple.

2. A design approach is a general philosophy and may not include a guide for specific method.

3. A design goal may be something as small as solving insignificant individual problem.

4. Use-centered refers to a design focused on the needs, wants, and limitations of the end user of the designed artifact.

VII.

a) Do you know what these words mean?

a black cat	**a shooting star**	**a mirror**	**salt**
a ladder	**wood**	**a lucky charm**	**an umbrella**

b) Read about some British superstitions. Fill in the gaps with words/phrases from a).

British superstitions

1. If *a black cat* walks in front of you, you'll have good luck.
2. If you walk under ……. or open ……. in the house, you'll have bad luck.
3. If you break ……., you'll have seven years bad luck.
4. If you carry ……., like a rabbit's foot, it'll bring you good luck.

5. If you see ……. in the sky, you can make a wish.
6. If you want a good thing to continue, you should touch …….
7. If you spill ……. on the table, you should throw it over your shoulder.

c) Discuss these questions.

1. Which of the British superstitions are true in your country?
2. What other superstitions do people have in your country?
3. Do you believe in any superstitions? If so, which ones?

Lesson 5

I. Pay attention to the following words:

ambiguous	– двусмысленный; неясный; неопределённый
rigorous	– строгий, точный
to conceive	– 1. постигать; понимать; 2. задумывать; замышлять
to overlap	– частично покрывать; перекрывать; частично совпадать
reverse	– противоположное (чему-л.); противоположность

II. Read the text.

Text 5. DESIGN IN VARIOUS CONTEXTS

The word "design" is often considered ambiguous, as it is applied differently in varying contexts.

Design and art. Design is often viewed as a more rigorous form of art, or art with a clearly defined purpose. In graphic arts the distinction is often made between fine art and commercial art. Applied art and decorative arts are other terms, the latter mostly used for objects from the past.

In the realm of the arts, design is more relevant to the “applied” arts, such as architecture

and industrial design.

Design implies a conscious effort to create something that is both functional and aesthetically pleasing. For example, a graphic artist may design an advertisement poster. This person's job is to communicate the advertisement message (functional aspect) and to make it look good (aesthetically pleasing).

Design and engineering. In engineering, design is a component of the engineering process. Many overlapping methods and processes can be seen when comparing Product design, Industrial design and Engineering. The American Heritage Dictionary defines design as: "To conceive or fashion in the mind; invent," and "To formulate a plan", and defines engineering as: "The application of scientific and mathematical principles to practical ends such as the design, manufacture, and operation of efficient and economical structures, machines, processes, and systems". The increasingly scientific focus of engineering in practice, however, has raised the importance of new more "human-centered" fields of design.

Design and production. The relationship between design and production is one of planning and executing. In theory, the plan should anticipate and compensate for potential problems in the execution process. Design involves problem-solving and creativity. In contrast, production involves a routine or pre-planned process. A design may also be a mere plan that does not include a production or engineering processes although a working knowledge of such processes is usually expected of designers. In some cases, it may be unnecessary and/or impractical to expect a designer with a broad multidisciplinary knowledge required for such designs to also have a detailed specialized knowledge of how to produce the product.

Design and production are intertwined in many creative professional careers, meaning problem-solving is part of execution and the reverse. As the cost of rearrangement increases, the need for separating design from production increases as well.

This is not to say that production never involves problem-solving or creativity, nor that design always involves creativity. Designs are rarely perfect and are sometimes repetitive. The imperfection of a design may task a production position (e.g. production artist, construction worker) with utilizing creativity or problem-solving skills to compensate for what was overlooked in the design

process. Likewise, a design may be a simple repetition (copy) of a known preexisting solution, requiring minimal, if any, creativity or problem-solving skills from the designer.

III. Using your own words, explain the following words in English:

1) applied arts; **2)** fine art; **3)** commercial art; **4)** aesthetically pleasing; **5)** heritage; **6)** execution; **7)** multidisciplinary; **8)** rearrangement; **9)** reverse; **10)** problem-solving skills.

IV. Match the words from the text with the definitions.

1.	intertwine	**a)**	to fail to see or notice something
2.	conceive	**b)**	1. done carefully and with a lot of attention to detail; 2. demanding that particular rules, processes, etc. are strictly followed
3.	rigorous	**c)**	expect or predict something
4.	overlook	**d)**	cover part of the same area of interest, responsibility
5.	anticipate	**e)**	to join things by combining together
6.	ambiguous	**f)**	to suggest or express something indirectly
7.	overlap	**g)**	to form an idea, a plan, etc. in your mind; to imagine something
8.	imply	**h)**	that can be understood in more than one way; having different meanings

V. Match the words from both columns to make word combinations. Translate them into Russian.

1.	to communicate	**a)**	the principles of design
2.	to utilize	**b)**	intuition
3.	to suggest	**c)**	the advertisement message
4.	to imply	**d)**	design from production
5.	to employ	**e)**	creativity or problem-solving skills
6.	to separate	**f)**	a conscious effort

VI. Say whether these sentences are true or false.

1. Design always implies an unconscious effort to create something that is both functional and aesthetically pleasing.

2. In theory, design should anticipate and compensate for potential problems in the execution process.

3. Design always requires creativity or problem-solving skills from a designer.

4. It's not always necessary for a designer to possess detailed specialized knowledge of how to produce the product.

5. Designs are always perfect and never repetitive.

VII. Choose one of the following topics and speculate on it.

- ✓ What design means for me.
- ✓ Significance of design in the modern world.
- ✓ Design nowadays and in the past.

UNIT V
COLOURS. SHAPES AND FORMS

Lesson 1

I. Pay attention to the following words:

tint	оттенок
hue	цвет
value	насыщенность
shade	тень
intensity	яркость
surround	окружать
influence	влиять
psychologically	психологически
mood swings	изменения настроения
monitor	измерять, проверять
vitally important	жизненно важно
colour schemes	цветовые гаммы, схемы, сочетания
inspire	вдохновлять
remain active	оставаться активным
depict	отражать

refined taste	утонченный вкус
mental illusions	умственные воображения
belongingness	принадлежность
vibrant	яркий, бодрый
arise	возникать
assign	назначать
summarize	обобщать
shape	форма, очертание
light	свет
peaceful and content	тихий, спокойный
blank	чистый,
subtle	утонченный
inspirational	вдохновенный
spiritual	духовный
magnificent	великолепный, величественный
spiritual glow	духовное свечение, свет
nook	укромный уголок
mindsets	настрой
dramatic appearance	впечатляющий, эффектный вид
window treatments	оформление окна
upholstery	обивка
masterpiece	шедевр

II. Discuss these questions!

- What are your favourite colours and why?
- What colours match each other and can be used in combination?
- How many colours can be used while designing one object?

III. Read the text.

Text 1. PROPERTIES OF COLOUR

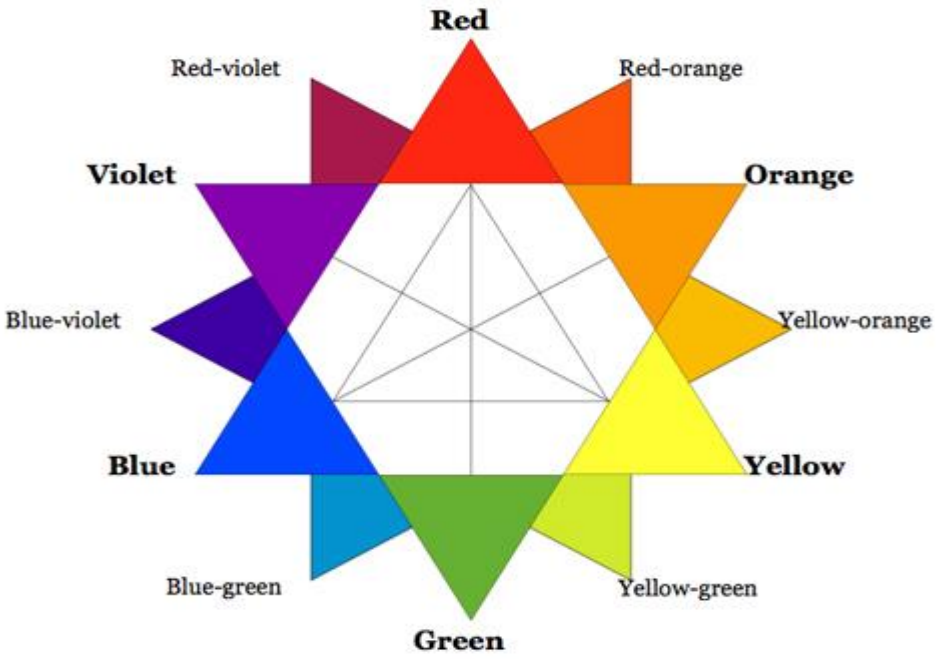
1. **Hue**: Hue is the name of a pure color, such as red, blue, or yellow.

2. **Value**: Value is the lightness or darkness of a hue (color). The value of a hue can be changed by adding black or white. Light values of colors are called **tints**. Darker values of colors are called **shades**.

3. **Intensity**: Intensity is the brightness or dullness of a hue (color). Pure hues are high-intensity colors. Dull hues are low-intensity colors. Intensity of color is changed by adding varying amounts of its complimentary color. For example, to make a bright green duller a little bit of red could be added to it.

Warm colors: Warm colors are colors that remind us of things that are warm: they are red, yellow and orange.

Cool colors: Cool colors remind us of things which we associate with cold or coolness: they are blue, violet and green.



IV. Fill in the gaps with the words given below.

1. *Red* brings out intense emotional responses, **…** appetite, excitement, and anxiety in its viewers.
2. Brands take advantage of *yellow's* noticeability to attract **…** to their stores, making it a popular color choice for retail stores.
3. *Green* hue is packed full of meaning, making it ideal for sustainable and **…** brands, financial institutions, or grocery chains.
4. *Blue* hue symbolizes **…**, trustworthiness, and loyalty with its calming nature.
5. *Purple* also has significant historical meaning; it was a popular color choice among emperors and **…**, creating an aura of royalty and exclusivity.

(peacefulness, customers, kings, eco-friendly, heightens)

Lesson 2

I. Discuss the following questions!

- Are colour associations and meanings the same across cultures? If not, why?
- Do you know any examples?
- What does orange colour mean in our country?

II. Read the text.

Text 2. MAGIC OF COLOURS. HOW TO CHOOSE A COLOUR SCHEME?

Color in design is very subjective. What evokes one reaction in one person may evoke a very different reaction in someone else. Sometimes this is due to personal preference, and other times due to cultural background. The Cultural differences mean that something that's happy and uplifting in one country can be depressing in another.

In the UK, white is considered pure and positive but in China, white is used in mourning, symbolizing heaven. Red is often used to symbolize strength and life, but is taboo in financial communities of Europe or the USA. Colour meanings in the North America, Canada, and Western Europe for green are health, wealth and nature while red expressesC passion, excitement or danger.

The colours we surround ourselves influence our lives psychologically and our mood. That is why it is vitally important to use colour schemes in a way that they would inspire us to remain active and do a better job and stay happy.

When it comes to decorating homes, colour scheme is very important as it should be one that inspires us and makes us happy at the end of the day. Our home depicts our personality and so the colour scheme should represent a harmonizing and refined taste of ourselves.

Red and white colour scheme.

Colours have an effect on our mind. They give us mental illusions. For example, the combination of white and red colour scheme gives a feeling of belongingness to the place and makes the person feel vibrant and active.

There is lot of emotion and sentiment when we talk about colour. Many colour enthusiasts have assigned meanings to individual colours like ***"Red is the color of love, yellow is a color of prosperity, white is a color of heart".***

Colours can be warm, subtle, cool, dramatic, inspirational, spiritual, magnificent etc. They should be delicately combined to sometimes give dramatic appearance or sometimes give an intense spiritual glow to the whole environment.

III. Chose the antonyms to the list of words below.

1.	different	**a.**	weakness
2.	personal	**b.**	passive
3.	happy	**c.**	safety
4.	pure	**d.**	comic
5.	strength	**e.**	cold
6.	health	**f.**	physical
7.	wealth	**g.**	public
8.	danger	**h.**	dull
9.	active	**i.**	equal
10.	warm	**j.**	illness
11.	dramatic	**k.**	sad
12.	mental	**l.**	poverty

IV. Chose as many words as possible from the text that can finish the following sentences.

1. Colours can be … .
2. Colours make us … .
3. Colours can express … .
4. Color in design is … .

V. Read the text. Prepare to sum up the main idea. Share it with other students in a group later. Translate the text into Russian.

COLOUR IS A POWERFUL BRANDING TOOL

Companies use colour to express their brands identities. Colour enables brand recognition. It evokes emotion and is used in advertising to set up the right mood. For example Tiffany's colour, turquoise blue is so important to the brand that they trademarked it. The company knows that it helps them to stand up from their competitors.

When we hear a company name IBM we think of security and reliability. A synonym for IBM is Big Blue. Their blue represents reliability and confidence. It is their brand attribute which helps to convey the main message to their customers. The majority of logos consist of but a single colour, typically a primary colour. Some may have two colours, but rarely you may see more than two colours. This makes it easy to attach an emotion to a logo.

- Why is colour an important marketing element?
- Why did IBM choose blue as their brand colour?

VI. Finish the sentences as it is given in the text.

1.	Colour helps companies	**a.**	to set up the right mood.
2.	The majority of logos consist of	**b.**	brand recognition.

3.	Colour is used in advertising	**c.**	to stand up from their competitors.
4.	This makes it easy to attach	**d.**	security and reliability.
5.	Colour enables	**e.**	a single colour.
6.	When we hear IBM we think of	**f.**	an emotion to a logo.

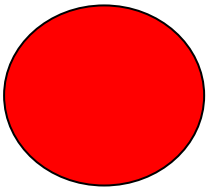
VII. PROJECT MAKING

Make up a dialogue between a client and a designer. As a designer help him /her choose a proper colour for:

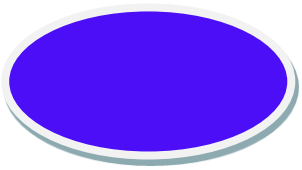
- furniture for the children's room
- wall paper for a bedroom
- packaging for cookies
- office furniture for a well-known company
- decoration in the restaurant for a wedding party and etc.

Lesson 3

SHAPES AND FORMS

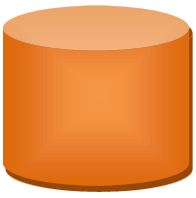


CIRCLE

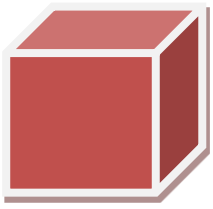


OVAL

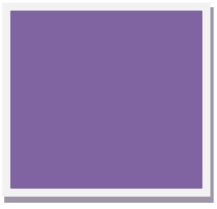
TRIANGLE



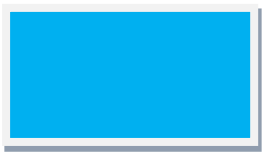
CYLINDER



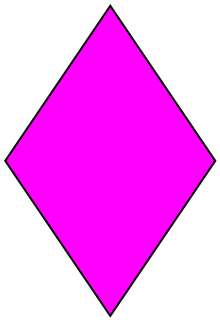
CUBE



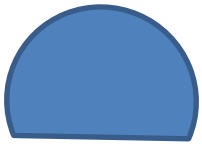
SQUARE



RECTANGLE



RHOMB (DIAMOND)



SPHERE

I. Pay attention to the following words:

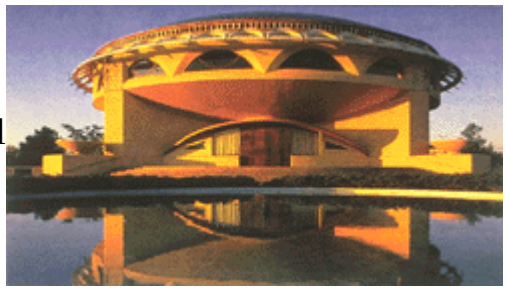
1.	join	соединять
2.	enclose	окружать, заключать, окаймлять
3.	regular	правильный
4.	precise	точный, правильный
5.	uneven	ровный, правильный, четный
6.	dimension	измерение
7.	width	ширина
8.	height	высота
9.	depth	глубина

II. Read the text.

- What forms and shapes are more often used in the designing of the industrial objects?
- Would you like to change usual forms of things for unusual ones? For example to create a round book or TV set.

Text 3. FORM, SHAPE AND SPACE

In drawing **shapes** are created when the ends of lines are joined to enclose areas. There are two general categories that are used to describe shapes. **Geometric** and Free-Form or **Organic** Shapes.



Geometric Shapes

- can be described using mathematical terms
- they are very regular or precise
- they are more often found in man-made things because they are easier to reproduce and make things with
- examples of geometric shapes are: squares, rectangles, triangles, circles, oval, pentagons, cubes, cones, spheres and so on. Architecture is usually composed of geometric forms. These forms are most often thought of as constructed or made.

Free-form or Organic Shapes

- are difficult to describe using definitions
- are irregular or uneven and often asymmetrical
- are more often found in nature

- examples include the shape of clouds, puddles, trees, leaves, rocks, cars and other natural and man-made objects.

There are other various ways to categorize form and shape. Form and shape can be thought of as either two dimensional or three dimensional. **Two dimensional form** has width and height. **Three dimensional shape** has depth as well as width and height.

Abstract Shapes

There are also shapes which we cannot relate to reality. They are known as abstract shapes. Abstract shapes are those that have a recognizable form but are not "real" in the same way that natural shapes are. Free form shapes like spirals, cloud-like formations, and multi-dimensional shapes have become popular in modern logo design.

III. Choose the right adjective for the nouns given below and translate them.

Example: cube – cubic – кубический

Round rectangular square triangular conic oval spherical cylindrical rhomboid

Noun	Adjective	Translation
square		
rectangle		
circle		
sphere		
cone		
triangle		
oval		
cylinder		
rhomb (diamond)		

IV. Match the words with their definitions.

1. width	**a)** the particular physical form or appearance of something
2. height	**b)** having parts on either side or half that do not match or are not the same size or shape

3. depth	**c)** the line or extent in space from one end to the other
4. shape	**d)** to build something or put together different parts to form something whole
5. asymmetrical	**e)** the maximum distance along an axis the distance across something from one side to the other
6. dimension	**f)** a large distance from top to bottom
7. regular	**g)** a flat shape with four sides of equal length and four angles of 90
8. square	**i)** the distance down either from the top of something to the bottom, or to a distance below the top surface of something
9. construct	**j)** the same on both or all sides
10. length	**k)** a measurement of something in a particular direction, especially its height, length, or width

V. Fill in the gabs with the word combinations given in brackets.

(Experimentation and altering, negative space, symbolic meanings, sports industry, add interest, rounded elements, customer base, direct the eye.)

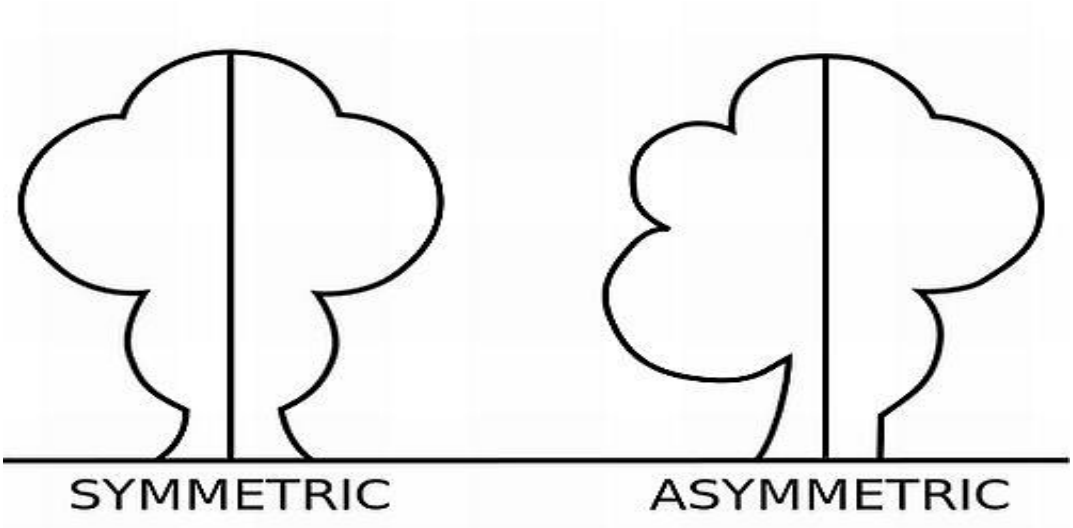
1. Shapes help the designer to **…** or organize elements of a design.
2. Shapes can have **…** and invoke feelings.
3. Shapes can be used to **…** to the most important information.
4. Geometric shapes typically include sharp corners but may have **…** .
5. A company whose primary **…** is women may use circles and curves in their logo.
6. Nike, a business in the **… ,** likes in their logo shapes with sharp lines that portray movement and action.
7. The “white space” or **…** left between shapes will also significantly impact a design.
8. … of shapes within a design can lead to the desired result.

Lesson 4

I. Pay attention to the following words:

interrelate imaginary	взаимодействовать воображаемый

axis	ось
draw	рисовать, чертить
shape	форма, очертание
mirror image	зеркальное отражение
balanced	сбалансированный
rigid	жесткий
harmonious	гармоничный
attractive	привлекательный
aesthetically pleasing	эстетически приятный
tough	трудно, жестко, жесткий
elevations	высоты, возвышения,
attain	достигать
plane	плоскость
divine	божественный
incorporate	включить, внедрить, соединить
chaos	хаос
rhythmic	художественный, ритмичный
radiate	излучать, сиять, лучистый
a sense of activeness	чувство активности, бодрости
maintain	поддерживать, сохранять
prevent	мешать, предотвращать



II.

Read the text. Before reading the text try to answer the following questions giving extensional answers.

1. What do we understand by Symmetry?

2. What kind of a design do you prefer (symmetric or asymmetric) and why?

3. Where do architects and designers use symmetry and asymmetry?

Text 4. INTERRELATIONSHIP OF SYMMETRY, BALANCE AND HARMONY IN DESIGN

A central imaginary axis is drawn. You draw any shape on one side of the axis and a mirror image is drawn on the other side of the imaginary axis. This is called symmetrical image. The image looks balanced, rigid and harmonious.

But when it comes to Symmetry in Design, making a symmetrical design is easy but making it attractive and aesthetically pleasing is a little tough.

Many Designers prefer symmetrically designed elevations because if there is symmetry, balance and harmony are satisfied automatically.

"Even God likes Symmetry. He made the Earth round which is symmetrical in all the planes. He made human beings, animals which are symmetrical too. Symmetry is divine. An Architect or a designer who knows how to incorporate symmetry in design is a master of master". Asymmetrical designs are rhythmic and radiate sense of activeness. When a designer or an Architect is making an asymmetrical design, he should take care that balance and harmony of the structure is maintained. This would help prevent visual chaos which is very important if a Designer wants people to feel pleasant and react positively when they look at his designed structures…

Symmetry and Asymmetry both have their own rules. Achieving any one of these by satisfying its principles is creativity.

III. Translate the parts of the sentences.

1. Symmetrical images (***выглядят божественно***).

2. I prefer (***ассиметричный дизайн***) in clothes.

3. This two projects seem identical and even like (***зеркальное отражение***) of each other.

4. His pictures (***напоминают мне хаос***) in the universe.

5. Your brilliant (***эстетический вкус***) will make you famous among designers.

6. If she wants children to (***реагировали положительно***) when they look at her designed toys, she should make them more colourful and bright.

7. The symmetrical elements of this decor (***делают его гармоничным***).

8. (***Нарисуйте несимметричную***) vase, please.

IV. PROJECT MAKING

Create your own design of any object: a furniture unit (a table, a sofa, an arm-chair etc.) a monument, a building for a modern café, a lamp, a bag etc. Describe its shape and form and say about its advantages.

UNIT VI
INDUSTRIAL DESIGN

Lesson 1

I. Pay attention to the following words:

IDSA (Industrial Designers Society of America)	– Общество промышленных дизайнеров Америки
3D software	– трехмерное программное обеспечение
Computer-aided design (CAD)	– автоматизированное проектирование, система автоматизированного проектирования, САПР
CT scanning – computer-tomography scanning	– КТ-сканирование; компьютерная томография
the Fender Stratocaster	– «стратокастер» Фендера (одна из наиболее известных электрогитар, в основу которой легло изобретение К.Л. Фендера – «устройство тремоло для струнных инструментов», запатенто-ванное в 1956 г.; плоская квадратная металлическая электрогитара с усилителем; используется при исполнении ритм-энд-блюза, рок-н-ролла и соула
the VW Beetle	– автомобиль модели «Жук» марки Фольксваген (Volkswagen)
handicraft	– ремесло; ручная работа

II. Read the text.

Text 1. THE DEFINITION OF INDUSTRIAL DESIGN

One of the many accepted (but intentionally unspecific) definitions of design originates from Carnegie Mellon's School of Design, "Design is the process of taking something from its existing state and moving it to a preferred state." This applies to new artifacts, whose existing state is undefined, and previously created artifacts, whose state stands to be improved.

“Industrial Design is the professional service of creating products and systems that optimize function, value and appearance for the mutual benefit of user and manufacturer” according to the Industrial Designers Society of America (IDSA).

At the 29th General Assembly in Gwangju, South Korea, 2015, the Professional Practise Committee unveiled a renewed definition of industrial design as follows: "Industrial Design is a strategic problem-solving process that drives innovation, builds business success and leads to a better quality of life through innovative products, systems, services and experiences."

Although the process of design may be considered 'creative,' many analytical processes also take place. In fact, many industrial designers often use various design methodologies in their creative process. Some of the processes that are commonly used are user research, sketching, comparative product research, model making, prototyping and testing. These processes are best defined by the industrial designers and/or other team members. Industrial designers often utilize 3D software, computer-aided industrial design and CAD programs to move from concept to production. They may also build a prototype first and then use industrial CT scanning to test for interior defects and generate a CAD model. From this the manufacturing process may be modified to improve the product.

Product characteristics specified by industrial designers may include the overall form of the object, the location of details with respect to one another, colors, texture, form, and aspects concerning the use of the product. Additionally they may specify aspects concerning the production process, choice of materials and the way the product is presented to the consumer at the point of sale. The inclusion of industrial designers in a product development

process may lead to added value by improving usability, lowering production costs and developing more appealing products.

Industrial design may also focus on technical concepts, products, and processes. In addition to aesthetics, usability, and ergonomics, it can also encompass engineering, usefulness, market placement, and other concerns – such as psychology, desire, and the emotional attachment of the user.

Some classic industrial designs are considered as much works of art as works of engineering: the iPod, the Jeep, the Fender Stratocaster, the Coke bottle, and the VW Beetle are frequently-cited examples.

III. Complete the following table with the missing parts of speech.

Verb	Noun	Adjective
refine		
	realization	
		proposed
perform		
	commitment	
resolve		
		revised

IV. Match the words with the definitions.

1. artefact	**a)** an idea or abstract principle
2. sketch	**b)** the applied science of equipment design, as for the workplace, intended to maximize productivity by reducing operator fatigue and discomfort.
3. usability	**c)** surround and have or hold within.
4. ergonomics	**d)** a set of principles concerned with the nature and appreciation of beauty.
5. appealing	**e)** a simply or hastily executed drawing or painting, especially a preliminary one, giving the essential features without the details.
6. encompass	**f)** the degree to which something is able or fit to be used.

7. texture	**g)** to make the most of; develop or realize to the utmost extent; obtain the most efficient or optimum use of
8. concept	**h)** a handmade object, as a tool, or the remains of one, as a shard of pottery, characteristic of an earlier time or cultural stage, especially such an object found at an archaeological excavation.
9. aesthetics	**i)** the way a surface, substance or piece of cloth feels when you touch it, for example how rough, smooth, hard or soft it is.
10. optimize	**j)** evoking or attracting interest, desire, curiosity, sympathy, or the like; attractive.

V. Translate the following words and word combinations into English.

Отличительная особенность; быть нацеленным на; объем продаж; прибегать к; жесткая конкуренция; яркий дизайн; выпускать продукцию; быть востребованным; художественное проектирование объектов; сельскохозяйственное оборудование; объекты промышленного назначения; технические требования; станки; технологичность производства; экологическая безопасность.

VI. Complete the sentences below using the words from the box. Put the verbs in the appropriate form.

(to) complete	*(to) resolve*	*flexibility*
(to) perceive	*available*	*(to) require*

1. Competitive manufacturing businesses ……. constant feedback from the customers who buy, sell, repair, or use the company's products.
2. The product will now be made ……. throughout the market.
3. These processes give the designer even greater ……. than conventional mass production techniques.
4. It is unlikely that the repairs will be ……. on time.
5. Other problems, at least temporarily, have ……. themselves.

6. Keeping in mind how consumers will ……. the product during the design process will direct towards the product's success in the market.

VII. a) Use a dictionary to check the meaning of the words and phrases in bold in sentences 1–15. Write them in the groups below according to your preferences.

I would like a job like that.	*You have to be physically fit.*
I wouldn't mind doing a job like that.	
I wouldn't want a job like that.	

1. You have **to be physically fit**.
2. You have to **be good with money/numbers**.
3. You need good **communication skills**.
4. You have to be very **well organized**.
5. You have to be very **creative**.
6. You need **special training** and **qualifications**.
7. You have **to work long hours**.
8. It's very **secure**.
9. It's **well paid**.
10. It's **badly paid**.
11. It's **stressful**.
12. It's **very competitive**.
13. It's **challenging**.
14. There's a lot of **responsibility**.
15. There are lots of **opportunities to travel**.

b) Work in pairs and compare your answers.

I'd like a job where you have to be physically fit.

c) Suggest some "ideal jobs" to your partner based on what he/she has told you.

I. Pay attention to the following words:

replication	– копирование, дублирование, копия
cross	– скрещивание, помесь, сочетание
gear [gɪə]	– шестерня
to gear	– приводить в движение (механизм)
circuit ['sɜːkɪt]	– электрическая схема
marketer	– маркетолог, специалист по маркетингу
manufacturability	– производственная технологичность
to overlap	– перекрывать; частично совпадать
utility	– полезность; выгодность; практическая ценность
utilitarian	– утилитарный; практичный (designed to be useful or practical rather than attractive)

II. Read the text.

Text 2. INDUSTRIAL DESIGN AS A PROCESS

Industrial design is a process of design applied to products that are to be manufactured through techniques of mass production. Its key characteristic is that design is separated from manufacture: the creative act of determining and defining a product's form and features takes place in advance of the physical act of making a product, which consists purely of repeated, often automated, replication.

All manufactured products are the result of a design process, but the nature of this process can take many forms: it can be conducted by an individual or a large team; it can emphasize intuitive creativity or calculated scientific decision-making, and often emphasizes both at the same time; and it can be influenced by factors as varied as materials, production processes, business strategy and prevailing social, commercial or aesthetic attitudes. The role of an industrial designer is to create and execute design solutions for problems of form, function, usability, physical ergonomics, marketing, brand development, and sales.

Industrial design studies function and form – and the connection between product, user, and environment. Generally, industrial design professionals work in small scale design, rather than overall design of complex systems such as

buildings or ships. Industrial designers don't usually design motors, electrical circuits, or gearing that make machines move, but they may affect technical aspects through usability design and form relationships. Usually, they work with other professionals such as engineers who design the mechanical aspects of the product assuring functionality and manufacturability, and with marketers to identify and fulfill customer needs and expectations.

Industrial design can overlap significantly with engineering design, and in different countries the boundaries of the two concepts can vary, but in general engineering focuses principally on functionality or utility of products whereas industrial design focuses principally on aesthetic and user-interface aspects of products.

III. Complete the following table with the missing parts of speech.

Verb	Noun	Adjective
manufacture		
	inclusion	
		appealing
fulfil		
	success	
		comparative
	desire	
solve		

IV. Match the words from both columns to make word combinations. Translate them into Russian.

1)	to lower	**a)**	design solutions
2)	to identify and fulfil	**b)**	more appealing products.
3)	to consist of	**c)**	a better quality of life
4)	to focus on	**d)**	production costs
5)	to lead to	**e)**	interior defects
6)	to develop	**f)**	customer needs and expectations.
7)	to create and execute	**g)**	repeated, automated, replication.
8)	to test for	**h)**	aesthetic and user-interface aspects of products.

V. Guess the word or word-combination according to the definition.

1. The branch of philosophy that studies the principles of beauty, especially in art – ….
2. Combined costs of raw material and labor used to manufacture products – ….
3. The first design of something from which other forms are copied or developed – ….
4. A person who buys goods or uses services – ….
5. A person or business whose job is to present, advertise and sell a company's products in the best possible way – ….
6. Activities such as sewing and making cloth that use skill with your hands and artistic ability to make things – ….
7. The action of copying or reproducing something; the copy that is made – ….

VI. Translate the following sentences into English.

1. Промышленный дизайн, как вид деятельности включает в себя элементы искусства, маркетинга и технологии.
2. Промышленный дизайн охватывает широчайший круг объектов, от домашней утвари до высокотехнологичных, наукоёмких изделий.
3. В традиционном понимании к задачам промышленного дизайна относятся прототипирование бытовой техники, производственных установок и их интерфейсов, наземного и воздушного транспорта (в том числе автомобилей, самолётов, поездов), разнообразного инвентаря.
4. Коммерческий успех любого продукта в значительной степени зависит от его дизайна.
5. Результатом успешной работы дизайнера при создании продукта становится повышение привлекательности продукта и большая удовлетворенность потребителя.
6. Функциональные особенности, используемые материалы и прочие факторы существенно влияют на затраты при производстве продукта, т.е. на его себестоимость.

VII. Read sentences A-F below. Tick (V) the ones you agree with and cross (X) the ones you don't agree with. Think about your reasons.

A □ You can only have two or three close friends.

B □ Nowadays people are in touch with more people but have fewer close friends.

C □ Men keep their friends longer than women.

D □ You should never criticize your friend's partner.

E □ You should never lend money to a friend (or borrow money).

F □ It's impossible to stay good friends with an ex-partner.

Lesson 3

I. Pay attention to the following words:

proxy	– полномочие; замена; заместитель
to intertwine	– переплетать(ся)
recognizable	– узнаваемый
to incorporate [ɪnˈkɔːpəreɪt]	– включать
to be renowned for	– славиться чем-л.

II. Read the text.

Text 3. THE EMERGENCE OF INDUSTRIAL DESIGN

The emergence of industrial design is specifically linked to the growth of industrialization and mechanization that began with the industrial revolution in Great Britain in the mid-18th century. It signaled the radical shift to mass production of identical goods.

Driven by this change in technology, the field of industrial design emerged to specialize in the design of commercial products that appealed to a broad audience and could be manufactured at scale. In contrast to the craftsmen of the past, these designers were challenged with meeting the needs of a large population, balancing functionality, aesthetics, ergonomics, durability, cost, manufacturability, and marketability.

The Industrial Designers Society of America (IDSA) describes industrial design as a professional service that optimizes "function, value, and appearance for the mutual benefit of both user and manufacturer." It is the study of form and function, designing the relationship between objects, humans, and spaces. Most commonly, industrial designers work on smaller-scale physical products, the kind

you buy and use every day, rather than larger-scale complex environments like buildings or ships.

Whether you realize it or not, industrial design is all around you, supporting and shaping your everyday life. The mobile phone in your pocket, the clock on your wall, the coffeemaker in your kitchen, and the chair you are sitting on. Everything you see, touch, and are surrounded by was designed by someone, and thus influenced by industrial design.

Throughout the 20th century, along with balancing the needs of the user and manufacturer, differences in politics and culture were evident in the design of objects. A rising consumer culture in the post-WWII period meant that manufactured goods doubled as a cultural proxy, intertwining national pride and economic reinvention. Along with regional differences, numerous philosophical and stylistic periods created distinct and recognizable eras within industrial design, including the Bauhaus school, Art Deco, Modernism, and Postmodernism.

On a more individual level, there are many famous industrial designers who have had an outsized influence on the history of the discipline. Raymond Loewy, a French-born American, is often referred to as the “Father of Industrial Design.” He revolutionized the industry, working as a consultant for many companies and creating designs for everything from packaging to refrigerator, from cars to the interiors of spacecraft.

Henry Dreyfuss is another famous American industrial designer whose work and influence from the mid-20th century are still felt today. Among his iconic designs are the Honeywell T86 thermostat, the Big Ben alarm clock, the Western Electric 500 desk telephone, and the Polaroid SX-70 camera. Dreyfuss was renowned not only for his attention to formal details but also for his focus on the user’s needs. He contributed significantly to the field of ergonomics, pioneering research into how human factors should be considered and incorporated into industrial design.

Along with the needs of business and users, the history of industrial design has been strongly shaped by the introduction of new technologies, which present

an opportunity to redesign and improve products. Industrial design has always been a conduit for innovation, translating the latest discoveries of science to meet the needs of everyday people.

III. Complete the following table with the missing parts of speech.

Verb	Noun	Adjective
invent		
	emergence	
		identical
express		
	durability	
		recognizable
	benefit	

IV. Match the words with the definitions.

1. manual	**a)** – it is defined as something innovative, pioneering or that has never been done before
2. discovery	**b)** something that happened in the past or that comes from someone in the past; relating to old or outdated computer hardware, software, or data that, while still functional, does not work well with up-to-date systems
3. introduction	**c)** to fix something firmly into a substance or solid object
4. legacy	**d)** the act of bringing something into use or existence for the first time, or of bringing something to a place for the first time
5. groundbreaking	**e)** it is defined as to set something in motion, to start something or to forcefully throw something
6. shift	**f)** it is defined as a guidebook that tells you how to operate something or do something
7. launch	**g)** something that happens as a result of a particular action or set of conditions
8. marketability	**h)** an act or the process of finding somebody/something, or learning about something that was not known about before
9. embed	**i)** the quality of being easy to sell; the quality of being attractive to customers or employers
10. consequence	**j)** a change in position or direction

V. Match the English words with the Russian equivalents.

tool	предубеждение	to shape	простой пример
evolution	вещество	the medieval maker	появляться
craft	ремесленник	to appear	грубо
substance	товар	a simple example	неспособный
prejudice	инструмент	medieval attitude	средневековый производитель
ware	ремесло	sophisticated	придавать форму
pattern	великолепный	to surpass	средневековое отношение
magnificent	развитие	unable	утонченный
artisan	модель	roughly	превосходить

VI. Complete the sentences using the wordlist below.

1. Industrial design professionals work ……, rather than overall design of complex systems such as buildings or ships. **2.** Design is the process of taking something …… and moving it to a preferred state. **3.** In general engineering design focuses principally on …… or utility of products whereas industrial design focuses principally on …… and user-interface aspects of products. **4.** Industrial designers can work with marketers …… customer needs and expectations. **5.** Industrial design can be described as a professional service that optimizes function, value, and appearance …… of both user and manufacturer. **6.** The history of industrial design has been strongly shaped by the introduction of new technologies, which present an opportunity …… and improve products. **7.** The inclusion of industrial designers in a product development process may lead to added value by improving usability, lowering …… and developing more appealing products. **8.** Consumers often take the …… into consideration when choosing between different products.

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for the mutual benefit; aesthetic; visual appeal of a product; in small scale design; to identify and fulfill; production costs; functionality; to redesign; from its existing state

VII. Make up 10 questions to the text.

Lesson 4

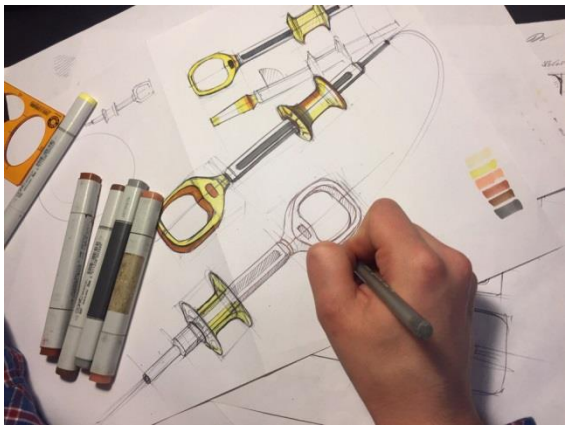
I. Pay attention to the following words:

ergonomically	– эргономично
to interface	– служить средством связи; взаимодействовать; работать слаженно, скоординировано
discerning	– умеющий различать или распознавать; проницательный; разборчивый
manufacturable	– изготовляемый; обрабатываемый; технологичный; удобный в изготовлении
executive management	– исполнительное высшее руководство

II. Read the text.

Text 4. THE ROLE OF INDUSTRIAL DESIGNERS IN THE PRODUCT DEVELOPMENT PROCESS

Industrial designers develop aspects of a product that create emotional connections with the user. They integrate all aspects of form, fit and function, optimizing them to create the best possible user experience. They also create visually appealing designs that can stand the test of time and ensure that the product is ergonomically suited to fit the user, including how they will functionally relate, interface or live with the product.



How successfully they are able to do this can often determine the success of a product in the market.

Industrial designers face a number of challenges, as manufacturers face more competition and faster development cycles than ever before. Alongside this, consumers are becoming ever more discerning and global competition continues to rise. Design and engineering teams are increasingly geographically spread, and elements of the design and engineering processes are often outsourced.

Globalization means that industrial designers now have to take both human factors and demographics into account during the design phase. Not only do they have to consider different body shapes and sizes, genders and age ranges – but

when catering to a global audience, there are different cultures, expectations, infrastructures, beliefs and preferences as well.

As such, pressure is being put on industrial designers from every angle. They have to operate in a fragmented development environment, but still develop products faster, without compromising on style or materials. Even how something is packaged can have an impact on sales.

An industrial designer's role in the product development process is to establish the design language of a product, as well as the corporate branding and identity. They are a vital element of the process because they have insight into market trends and consumer preferences.

In order to deliver innovative designs that are functional, manufacturable and affordable, it is critical that industrial designers work with and satisfy the needs of all of the major stakeholders across the product lifecycle, including executive management, marketing, engineering and manufacturing. An industrial designer also has to be able to offer a lot of options and flexibility, working closely with the engineers to determine how to manage costs through the use of different manufacturing techniques, materials or functions.

III. Complete the following table with the missing parts of speech.

Verb	Noun	Adjective
determine		
	flexibility	
		affordable
deliver		
	achievement	
		collaborative
explore		

IV. Match the words from both columns to make word combinations. Translate them into Russian.

1. to create	**a)** valuable feedback
2. to evaluate	**b)** the needs of all of the major stakeholders
3. to take	**c)** a significant competitive advantage
4. to face	**d)** design decision making
5. to satisfy	**e)** visually appealing designs

6. to accelerate	**f)** overall product development time
7. to give companies	**g)** both human factors and demographics into account
8. to provide	**h)** the aesthetics and its impact on the design
9. to reduce	**i)** a number of challenges

V. Match the words with the definitions.

1. product lifecycle	**A.** to get as much advantage or profit as possible from something that you have
2. insight	**B.** designed to improve people's working conditions and to help them work more efficiently
3. crucial	**C.** (of a computer display or system) generating a three-dimensional image which appears to surround the user
4. to interface	**D.** the period of time over which an item is developed, brought to market and eventually removed from the market
5. to explore	**E.** the latest or most advanced stage in the development of something
6. ergonomic	**F.** interact with another system, person, etc.
7. immersive	**G.** the ability to see or understand something clearly, often sensed using intuition.
8. to leverage	**H.** 1. something that encourages a process or activity to develop more quickly; 2. the force or energy with which something moves
9. cutting-edge	**I.** to search, investigate or travel in.
10. impetus	**J.** something that is essential or vitally important

VI. Answer the questions using information from the text and your own ideas.

1. What does it mean "the product is ergonomically suited to fit the user"?
2. What can determine the success of a product in the market?
3. What challenges do industrial designers face nowadays?

4. Why does an industrial designer need to have a deep understanding of markets and trends?

5. Does an industrial designer need to work closely with engineers? Why?

6. How has globalization influenced the work of industrial designers?

7. What are the key factors to enabling cutting-edge industrial design? Why?

8. What helps designers to evaluate and make decisions on which materials are best to use and how the product will look and be perceived in the market?

Lesson 5

I. Pay attention to the following words:

coherent	– связанный; сцепленный; согласованный; слаженный
installation	– установка; сборка; инсталляция
DIN – Deutsche Industrie Norm	– немецкий промышленный стандарт, стандарт DIN
disposal	– избавление; устранение
recycling	– переработка отходов; повторное использование
sustainable	– 1. устойчивый, жизнеспособный; 2. экологически безопасный
longevity [lɔn'ʤevətɪ]	– долгая жизнь; долголетие; долговечность

II. Read the text.

Text 5. INTELLIGENT INDUSTRIAL DESIGN: KEY ELEMENTS FOR SUCCESS

Industrial design is more than mere aesthetics. Tough global competition, environmental concerns, and increasingly scarce resources today demand that industrial design take a new direction. Intelligent industrial design offers a broad spectrum of competitive advantages, and is a holistic strategy in which equal importance is attached to functionality, production costs, and all aspects of marketing. Fundamental elements for success are the following.

Innovativeness – concepts for the future

Whoever stops being innovative stops being successful. Good ideas provide solutions for daily life – they combine, break through, move ahead. New qualities and applications generate added value for consumers and create unique selling points.

Usability – the product in its context

Products should enhance the lives of users and make them easier. Safety, ease of maintenance and user-friendliness are important aspects, as are ergonomics and product semantics. As suitable for everyday use and as integrative as possible. Effective and efficient functionality.

Aesthetics – the poetry within the product

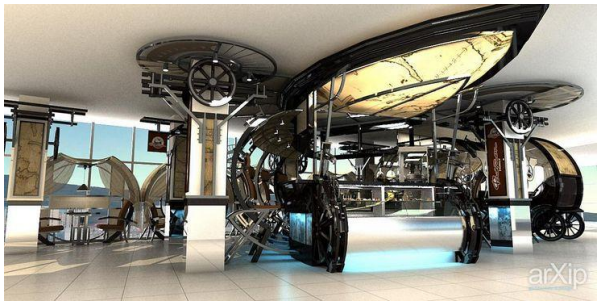
Harmony, linearity, elegance, the art of reduction, coherent forms and colours. The formal qualities reflect the functionality of a product.

Economy – serialising the product

Forms and materials dictate the production process. A responsible partner keeps a clear eye on the hard facts: DIN norms, installation costs, material requirements and costs, manufacturing methods, health rate. Successful production begins at the design stage, is sparing in the use of resources, and is economical.

Ecology – the added value of a product

At the product's periphery: questions regarding packaging, disposal, and resource recycling – and during production: optimised processes, minimised material and energy usage, improved CO_2 footprint. Conservation of resources and sustainable products geared towards longevity.



Marketing – the message within the product

Industrial design is an integral part of corporate identity and a modern marketing tool. Through independence and high recognition value, defined characteristics allow for direct marketing to the target group. Distinctive products convey identity and possess symbolic and emotional content.

III. Make all possible derivatives from the given words (nouns, verbs, adjectives, negative forms, etc.).

Safety, responsible, identity, user-friendliness, reduction, reflect, equal, innovative, sustainable, conservation, functionality, installation.

IV. Guess the word according to its definition.

1. A contest, sports match or rivalry – ….
2. The act of putting something in, a device that stays in one place, a military base, or an art piece that often involves building and different types of materials – ….
3. Long life; long existence or service – ….
4. The quality in something of being very suitable for the purpose it was designed for – ….
5. The quality of being easy for people who are not experts to use or understand – ….
6. The action or process of getting rid of something – ….
7. Involving the use of natural products and energy in a way that does not harm the environment – ….
8. The process of collecting and reprocessing materials that would typically be considered waste – ….
9. Materials used to wrap or protect goods that are sold in shops/stores – ….

V. Complete the sentences below using the words from the box. Put the verbs in the appropriate form.

(to) combine	*recycling*	*sustainable*
(to) identify	*user-friendly*	*(to) reduce*
installation	*(to) enhance*	

1. The entire process uses up precious resources that might be needed in the future for more …….. products.
2. If you accept the licence, click Accept to continue the ……..
3. Promote pollution prevention, clean production and …….. agriculture.
4. …….. conserves energy by reducing the amount of new materials that have to be manufactured.
5. The design of the hotel …….. an elegant blend of contemporary design with a modern Thai touch to ensure a relaxing stay for all guests.
6. This would …….. transaction costs and trading risks.
7. They have a useful combination of creative and practical skills which can help …….. new solutions and opportunities.

8. According to staff, this approach has …….. both resource utilization and results.

VI. You are going to design an exciting innovative product and then make a presentation of it.

You should mention the following points in the presentation:

1. The description of the product (colours, shape(s), materials it is made of, its functionality, usability and so on). How will it improve the standards of living?
2. Why is the product really new?
3. Its target consumers and main buyers. How will it meet their needs?
4. The price of the product.

UNIT VII
MATERIALS

Motto: "For a designer to continually learn about materials is not extracurricular, it's absolutely essential."
Jonathan Ive, Apple's Senior Vice President of Design

Lesson 1

I. Pay attention to the following words:

MATERIALS	
rubber	резина
leather	кожа
metal	металл
wool	шерсть
cotton	хлопок
silk	шелк
linen	лен
viscose	вискоза
petrochemicals	нефтепродукты
acrylics	акриловое волокно

nylon	нейлон
polyester	полиэстер
oil	нефть
coal	уголь
natural fibres	натуральные волокна
synthetic fibres	синтетические волокна
plastic	пластик, пластмасса
composites	композиты
glass	стекло
textiles	ткань, текстиль
metal	металл
paper	бумага
bonding	соединение, связывание
glue	клей
PROPERTIES OF MATERIALS	
tough	твердый
smooth	мягкий
shiny	блестящий
reinforcing	усиливающий, армированный
density	плотность
versatile	разнообразный
brittle	ломкий, хрупкий
heat-resistant	термостойкий, жаропрочный
resistant to corrosion	устойчив к коррозии
flexible	гибкий, гнущийся
glossy	глянцевый, блестящий
UV resistant	устойчивый к ультрафиолетовому излучению
renewable	возобновляемый
light	легкий
resists chemicals	противостоит химическим веществам
scratches easily	легко царапается
transparent	прозрачный
water-resistant	водонепроницаемый
creases badly	сильно гнется, сгибается
creases resistant	плохо гнется
breathable	дышащий, воздухопроницаемый
insulator	изоляционный материал
ductility	ковкость, мягкость, тягучесть
malleable	ковкий, мягкий
solid	твердый

II. Read and guess the name of a material.

Let's talk about materials that make clothing

1. This first material comes from sheep. We use it to make sweaters and gloves, scarves and even hats. Do you know what it is?

2. This next material also comes from animals. It actually comes from the hide of animals or animal skin. We use it to make jackets and belts and shoes. You know what it is?

3. This next material comes from trees and it is extracted from trees to make a very bouncy material, very tough material, and we use it for the bottoms of shoes and sometimes for belts and jackets and things like that. Do you know what it is?

4. This next material comes from insects, not animals, and it's is very light and very smooth and soft and usually shiny. Do you know what it is?

5. This next material actually comes from the ground. You have to dig in the ground to go and get it, and we use this material to make things like jewelry, such as bracelets, earrings and necklaces. We also use it to make buttons sometimes. Do you know what it is?

6. The last material is very common. Almost everybody uses this material. It comes from a plant and we use it to make t-shirts and denim for blue jeans and socks and sweaters, lots of things. Do you know what it is?

(See keys on p. 226)

III. Pay attention to the following words:

light	легкий
transport costs	транспортные расходы
recycled	перерабатываемый
degradable	разлагаемый
precious	ценный
landfill	мусорный полигон
entirely	полностью
renewable raw materials	возобновляемое сырье
abundant agricultural resources	обильные сельскохозяйственные ресурсы
preserve	сохранять
waste	отходы, мусор
cutlery and plates	столовые приборы и тарелки
diapers	памперсы
napkins	салфетки
product properties	свойства продукта
scale	размах, масштаб

availability to heat and shape thermoset plastic	доступность, наличие нагревать и придавать форму термореактивная пластмасса

IV. Before you read the text talk about the questions.

- Can you give the examples of things made of plastic?
- Are plastic goods convenient in use?
- What things made of plastic do you have?

Text 1. PLASTICS

Over the past 50 years or so, plastics have been used to make a growing range of everyday products from food packaging and bags to toys and computers. From an environmental point of view, plastics:

- ✓ are light (cutting down on transport costs)
- ✓ can often be reused (or recycled)
- ✓ are sometimes degradable.

However, they also use up precious energy, resources and create landfill.

Bioplastics are a new generation of biodegradable plastics, made entirely or almost entirely from renewable raw materials. Recent advances in research and technology have shown that these plastics can be made from abundant agricultural resources. They preserve nonrenewable resources – petroleum, natural gas, and coal – and contribute little to the problems of waste management. Bioplastics are currently used for bags, cutlery and plates, pens, clothing, credit cards, food packaging, teabags, coffee filters, diapers and napkins. The main brands of the plastic itself are: Biopol, Bionolle, NatureWorks and Mater-Bi.

Current and future developments in biodegradable polymers and renewable input materials focus mainly on the improvement of product properties. Larger scale production will increase availability and reduce prices. Today we are trying to find our way toward a future of green plastics.

Thermoset plastics can only be heated and shaped once. The main thermoset plastics are epoxy resin, polyester resin etc. ***Thermoplastics*** can be heated and shaped many times. Some common thermoplastics are ABS (acrylonitrile butadienestyrene – *акрилонитрил-бутадиенстирол*).

V. Make up word combinations using the text and translate them.

1.	growing	**a.**	energy
2.	everyday	**b.**	materials
3.	food	**c.**	products
4.	raw	**d.**	range
5.	precious	**e.**	prices
6.	waste	**f.**	packaging
7.	credit	**g.**	polymers
8.	green	**h.**	resources
9.	biodegradable	**i.**	management
10.	nonrenewable	**j.**	plastics
11.	reduce	**k.**	cards

***VI.* PROJECT MAKING**

Find the information about the world-known or Belarusian company which produces goods from plastics. Make a report or presentation about its history, products and business activity.

Lesson 2

I. Pay attention to the following words:

softwood	мягкая древесина
hardwood	твердая древесина
coniferous	смолистый
plywood	фанера
veneer	шпон, однослойная фанера
particle board	ДСП
reconstituted	восстановленный
finishes and thicknesses	отделка и толщина

shavings	стружка
chips	кусочки
sawdust	опилки
chipboard	плита OSB (ОСП)

II. Before you read the text talk about the questions.

- What kind of materials do people use to build their private houses?
- What are the advantages and disadvantages of wooden constructions?

Text 2. TIMBER / WOOD

There are two types of timber: softwood and hardwood. **Softwood timbers** usually come from coniferous trees such as fir (*ель*) and pine (*сосна*). They do not have the hard cell structure that gives hardwood trees their name. **Hardwood timbers** come from broad-leaved (*широколиственные*), deciduous (*лиственные*) trees, and are more important in Design and Technology than softwood timbers. The main hardwood timbers are ash (*ясень*), beech (*бук*), birch (*береза*), cherry (*вишня*), elm (*вяз*), mahogany (*красное дерево*), oak (*дуб*) and teak (*тик*).

Manufactured board

The most common types of manufactured board are plywood, particle boards and fibre boards.

- ***Plywood*** is made from wood veneers that are cross-banded to give high strength. They often have a high-quality veneer on the face, with lower-quality woods internally. Plywoods come in a range of finishes and thicknesses.
- ***Particle boards*** are made from reconstituted wood such as shavings, chips and sawdust (the most common type is chipboard). The wood is pressed

together into sheets or blocks using natural or synthetic resin. Particle boards often have a veneer, for example melamine-faced chipboard is used a lot in furniture-making.

- ***Fibre boards*** are usually made from reconstituted softwoods. The most common are hardboard and Medium Density Fibreboard (MDF). You need to take particular care when using these, as many contain dangerous and carcinogenic (cancer-causing) chemicals such as formaldehyde.

Non-wood waste products. There are also manufactured boards that don't contain any wood at all. These can now be made from agricultural waste (such as straw), by-products of the textile industry (such as hemp), or recycled paper fibre.

III. Make up word combinations using the text and translate them.

1.	natural	**a.**	quality
2.	high	**b.**	type
3.	particular	**c.**	making
4.	common	**d.**	chemicals
5.	textile	**e.**	strength
6.	lower	**f.**	resin
7.	carcinogenic	**g.**	industry
8.	furniture	**h.**	care

IV. PROJECT MAKING

➢ ***Find the information about any Belarusian company, which produces goods from wood. Make a report or presentation about its history, products and business activity.***

➢ ***Create your own designs of any objects made of wood and present them.***

Lesson 3

I. Pay attention to the following words:

ferrous metals	черные металлы
non-ferrous metals	цветные металлы
pure metals	чистые металлы
cast iron	чугун
carbon	углерод
steel	сталь

stainless steel	нержавеющая сталь
alloys	сплавы
copper	медь
gold	золото
silver	серебро
platinum	платина
aluminium	алюминий
mercury	ртуть
zinc	цинк
brass	латунь, желтая медь
gilding metal	металл с позолотой
tin	олово
lead	свинец
foil	фольга
durable/ lasting	прочный, долговечный

II. Before you read the text talk about the questions.

- Is metal the strongest material of all?
- Is this material popular among industrial designers? If yes, why?

Text 3. METALS

People first began making things from metal over 6000 years ago, when they discovered how to get copper from its ore. They then learned how to make a harder alloy – bronze, by adding tin to the copper. About 3000 years ago, they discovered iron. By adding small amounts of carbon to iron, they found that they could make a particularly useful alloy – steel.

Most pure metals, like gold, silver and copper, come from the Earth's crust. They are found in ores' solid materials called minerals, usually occurring in rock, from which the pure metal has to be extracted. Metals are often divided into:

- ferrous metals, which have iron in them (for example carbon steel, cast iron, mild steel, medium carbon steel, high carbon steel, stainless steel, and high speed steel)

- non-ferrous metals, which don't have iron in them (for example copper, aluminium, duralumin, zinc, brass, gilding metal, tin and lead).

These days we know about some 100 pure metals and a large number of alloys, all of which have a wide range of properties. They are:

State: Metals are solid at room temperature with the exception of mercury, which is liquid at room temperature (Gallium is liquid on hot days).

Luster: Metals have the quality of reflecting light from their surface and can be polished e.g., gold, silver and copper.

Malleability: Metals have the ability to withstand hammering and can be made into thin sheets known as foils. For example, a sugar cube sized chunk (*кусок*) of gold can be pounded (*разбит*) into a thin sheet that will cover a football field.

Ductility: Metals can be drawn (*вытянут*) into wires. For example, 100 g of silver can be drawn into a thin wire about 200 meters long.

Hardness: All metals are hard except sodium and potassium, which are soft and can be cut with a knife.

Conduction: Metals are good conductors because they have free electrons. Silver and copper are the two best conductors of heat and electricity. Lead is the poorest conductor of heat. Bismuth, mercury and iron are also poor conductors

Density: Metals have high density and are very heavy. Iridium and osmium have the highest densities whereas lithium has the lowest density.

Melting and Boiling Points: Metals have high melting and boiling points. Tungsten has the highest melting and boiling points whereas mercury has the lowest.

III. Make up word combinations using the text and translate them.

1.	solid	**a.**	hammering
2.	harder	**b.**	conductors
3.	reflect	**c.**	points
4.	withstand	**d.**	density
5.	good	**e.**	alloy
6.	high	**f.**	light
7.	melting and boiling	**g.**	materials

IV. Everyday English.

What do the <u>underlined</u> words refer to in these sentences? Match questions 1-8 with the opinions a-h.

a It was really boring! I fell asleep during the first act.

a play

b I didn't like his first one, but I couldn't put his latest one down until the last page. **c** It was excellent. Have you seen it yet? It stars Julia Kershaw and Antonio Bellini.

d She's usually good, but I don't think she was right for this part.

e I think they spoil them. They always give them whatever they want.

f It was a nice break, but the weather wasn't very good.

g They were delicious. John had tomato and mozzarella and I had tuna and sweetcorn.

h It was really exciting, especially when David Stuart scored in the closing minutes.

1. Did you like the film?	**c**
2. What did you think of the play?	
3. Did you like your pizzas?	
4. Do you like Malcolm Baker's novels?	
5. What do you think of their children?	
6. What was your holiday like?	
7. What did you think of Sally Cotter?	
8. What was the match like?	

V. PROJECT MAKING

Tell about at least ten the most famous metal constructions in the world.

Lesson 4

I. Pay attention to the following words:

ceramics	керамика
clay	глина
sand	песок

feldspar	полевой шпат
grind (ground, ground)	молоть
underestimate	недооценивать
to fire	обжигать
pottery	глиняная посуда, гончарное дело
high melting points	высокие точки плавления
low electrical and thermal conductivity	низкая электрическая и теплопроводность
high compressive strengths	высокая прочность на сжатие
shrinkage	усадка, усушка
tableware	посуда
sanitaryware	сантехника
tiles	плитка
refractories	огнеупорный материал
electrical porcelain	электрический фарфор

II. Before you read the text talk about the questions.

- What things made of ceramics can you mention?
- Is this material eco-friendly?
- Would you like to work with this material and use it in your future projects?
- Is ceramics widely used in industrial design?

Text 4. CERAMICS


Ceramics are made from clay, sand and feldspar [feldspar: a very common group of hard, crystalline minerals containing silicon]. These materials are ground to a fine powder, mixed together and fired at high temperatures (700 – 2000°C) in the production process. Ceramics are special materials with many applications in almost all the engineering disciplines. But their importance has often been underestimated due to the fact that many people believe that ceramics are all about pottery and tiles. Today's ceramics industry is one of the most rapidly advancing concerns in many parts of the world.

Ceramic materials are special because of their properties. They typically possess high melting points, low electrical and thermal conductivity values, and high compressive strengths. Also they are generally hard and brittle with very good chemical and thermal stability. Ceramic materials can be categorized as traditional ceramics and advanced ceramics.

Traditional Ceramics

Ball clay, China clay, Feldspar, Silica, Dolomite, Talc, Calcite and Nepheline are the common materials used for most of the ceramic products. Each raw material contributes a certain property such as dry strength, plasticity, shrinkage, etc. to the ceramic body.

The traditional ceramics industry originated long ago. Even thousands of years ago it was a well established practice in many parts of the world. Today there are many divisions of this industry. Pottery, tableware, sanitaryware, tiles, structural clay products, refractories, blocks, and electrical porcelain are some of the products of traditional ceramics.

Advanced Ceramics

Advanced ceramics are special type of ceramics used mainly for electrical, electronic, optical, and magnetic applications. This sector is different from traditional ceramics due to the fact that ceramic powder preparation is quite complicated. Generally chemical reactions are used to produce the ceramic powder such as Sol-gel processing and liquid-gas reactions like NH_3 gas and $SiCl_4$ liquid to produce Si_3N_4. Many of these methods are very costly. Therefore, powder preparation is always a cost factor in the advanced ceramics industry.

Magnetic ceramics are another type of advanced ceramic material that is used for the production of antennas and inductors. Bioceramics like Alumina with high density and purity is used to dental implants. Eye glasses, chemical ware, and the replacement of hips and knees, etc. are some of the applications of bioceramic materials.

III. Make up word combinations using the text and translate them.

1.	fine	**a.**	concern
2.	production	**b.**	strength
3.	advancing	**c.**	application
4.	thermal	**d.**	powder
5.	dry	**e.**	implants
6.	optical	**f.**	purity
7.	costly	**g.**	conductivity
8.	dental	**h.**	methods
9.	high density and	**i.**	process

IV. Read the text.

Glass

When specifying glass in a design there are a number of issues to consider:

- Glass is heavier but more easily recycled.
- Can be used for lusting, prestige packaging.
- Glass is 100% recyclable with no loss of clarity or purity. Some regular green drinks bottles contain 93% recycled content.
- Mixed glass, and dirty glass contaminated by silicone, glue, screen printing and coatings with silver or aluminium make recycling more difficult.
- Screen-printed and reflecting glass cannot be recycled into first class glass, but down-cycled.

Use your label to remind people to recycle their glass - show them how and where to recycle, do not use a bin symbol. If you use blue glass - let customers know to put it in the green bottle bank.

V. Different materials exhibit different working properties. Listed below are the key properties, which determine how materials behave. Match the definitions with the appropriate property.

a. strength	**1.** The ability of a material to conduct heat or electrical energy.

b. fusibility	**2.** The ability of a material to withstand a force without breaking or bending.
c. plasticity	**3.** The ability of a material to bend and then to return to its original shape and size.
d. malleability	**4.** The ability of a material to permanently change in shape.
e. ductility	**5.** The ability of a material to permanently deform in all directions without cracking.
f. durability	**6.** The ability of a material to deform, usually by stretching along its length.
g. toughness	**7.** The ability of a material to resist wear, scratching and indentation.
h. conductivity	**8.** The ability of a material to withstand blows or sudden shocks without breaking.
i. elasticity	**9.** The ability of a material to withstand wear, especially as a result of weathering.
j. hardness	**10.** The ability of a material to change into a liquid or molten state when heated to its melting point.
k. natural	**11.** The ability not to conduct electricity
l. insulator	**12.** Coming from nature, such as wood

VI. Match nouns with the corresponding adjectives.

1. strength	**a.** tough
2. fusibility	**b.** hard
3. plasticity	**c.** fusible
4. malleability	**d.** durable
5. ductility	**e.** conductive
6. durability	**f.** strong
7. toughness	**g.** malleable
8. conductivity	**i.** resistant
9. elasticity	**j.** ductile
10. hardness	**k.** plastical
11. resistance	**l.** elastic

VII. Complete the table. Write as many properties as possible. Then say about them as it is given in the example.

Example:

a) Teak *is hard, very strong and durable. It is used to make outdoor furniture*

b) Linen *creases badly but it's fresh and cool to wear.*

MATERIAL	PROPERTIES
Glass	
Metal	
Plastic	
Wood	
Rubber	
Cotton	
Stone	

VIII. Check (v) the sentence that uses the underlined parts correctly.

1. ___ **A** Cotton is a synthetic material.

___ **B** Glass is brittle and can shatter.

2. ___ **A** You can stretch rubber because it has very low tensile strength.

___ **B** Foam retains heat well and is good conductor.

3. ___ **A** Most glass is transparent.

___ **B** Metals have low levels of hardness.

IX. PROJECT MAKING

Talk about the chosen topic using the structures below. Use your knowledge of elements and principles of design, colours and materials.

When making packaging for a box of chocolates …

When choosing fabric for your design …

When making park benches…

When making a handbag / laptop bag …

When designing flip-flops …

When designing outdoor furniture …

When making an outdoor installation of the logo of the BNTU …

When designing windows …

When designing toys for kids …

Your own topic:

Useful language

There are three important things to consider when …

First you must …

This is necessary because …

Secondly … is also vital so that …

Finally, you should remember … in order to …

So, to sum up …

And here are the three points that lead to success when …

Key words: conductive, malleable, durable, fusible, tough, to retain, to emit, to resist, to withstand

UNIT VIII
SUSTAINABLE DESIGN

Lesson 1

I. Pay attention to the following words:

sustainable design	– экологический дизайн, гармоничный дизайн, экологическое планирование
to comply with	– соответствовать, соблюдать
renewable resources	– возобновляемые ресурсы
urban design, urban planning	– градостроительное проектирование, городское планирование
depletion	– уменьшение, истощение
humanitarian relief	– оказание помощи, гуманитарная помощь
shipping container	– грузовой контейнер
straw bale	– соломенный блок
net effect	– результирующий эффект; суммарное воздействие; совокупный эффект
to outpace	– опережать

II. Read the text.

Text 1. SUSTAINABLE DESIGN

Sustainable design (also called environmental design, environmentally sustainable design, environmentally conscious design, etc.) is the philosophy of designing physical objects, the built environment, and services to comply with the principles of social, economic, and ecological sustainability. In some countries the term sustainable design is known as ecodesign, green design or environmental design.

The intention of sustainable design is to "eliminate negative environmental impact completely through skillful, sensitive design". Manifestations of sustainable design require renewable resources, impact the environment minimally, and connect people with the natural environment.

Beyond the "elimination of negative environmental impact", sustainable design must create projects that are meaningful innovations that can shift behavior. A dynamic balance between economy and society, intended to generate long-term relationships between user and object/service and finally to be respectful and mindful of the environmental and social differences.

Applications of this philosophy range from the microcosm – small objects for everyday use, through to the macrocosm – buildings, cities, and the Earth's physical surface. It is a philosophy that can be applied in the fields of architecture, landscape architecture, urban design, urban planning, engineering, graphic design, industrial design, interior design, fashion design and human-computer interaction.

Sustainable design is mostly a general reaction to global environmental crises, the rapid growth of economic activity and human population, depletion of natural resources, damage to ecosystems, and loss of biodiversity. In 2013, eco architecture writer Bridgette Meinhold surveyed emergency and long-term sustainable housing projects that were developed in response to these crises in her book, “Urgent Architecture: 40 Sustainable Housing Solutions for a Changing World.” Featured projects focus on green building, sustainable design, eco-friendly materials, affordability, material reuse, and humanitarian relief. Construction methods and

materials include repurposed shipping containers, straw bale construction, sandbag homes, and floating homes.

The limits of sustainable design are reducing. Whole earth impacts are beginning to be considered because growth in goods and services is consistently outpacing gains in efficiency. As a result, the net effect of sustainable design to date has been to simply improve the efficiency of rapidly increasing impacts. The present approach, which focuses on the efficiency of delivering individual goods and services, does not solve this problem. The basic dilemmas include: the increasing complexity of efficiency improvements; the difficulty of implementing new technologies in societies built around old ones; and that the scale of resource use is growing and not stabilizing.

III. Complete the following table with the missing parts of speech.

Verb	Noun	Adjective
	affordability	
relieve		
	depletion	
		sustainable
	loss	
comply		
		renewable

IV. Guess the word or word-combination according to the definition.

1. The activity of applying scientific knowledge to the design, building and control of machines, roads, bridges, electrical equipment, etc.

2. It involves the study, planning, and design of the interaction between people (users) and computers.

3. It is the art of the application of design and aesthetics or natural beauty to clothing and accessories.

4. It is the process of designing and shaping cities, towns and villages.

5. It is a natural resource which can replenish with the passage of time, either through biological reproduction or other naturally recurring processes.

6. It is the design of outdoor public areas, landmarks, and structures to achieve environmental, social-behavioral, or aesthetic outcomes.

V. Complete the sentences below with the words from the box.

sustainable	*eco-friendly*
develops	*impacted*
reused	*reduced*
renewable	*eliminate (2)*
create	*requires*

1. ‘‘It has _____ on a number of businesses”, he said.

2. “If we could _____ stress, would we _____ a lot of disease?”

3. Barcelona provides a _____ city model that we can follow.

4. “We are going to _____ new jobs from bringing in new products and services to the community.”

5. He _____ the concept more fully in his book.

6. Waste which cannot be _____ or recycled will have to disposed of outside of the county.

7. Devising your plan _____ detailed research, analysis, self-assessment and a realistic outlook.

8. Reduced taxation for _____ products or services can be applied to give market incentives to companies and customers.

9. Both groups favour investment in energy efficiency and _____ energy sources.

10. They have greatly _____ the size and cost of most electronic products, while at the same time increasing their power and versatility.

VI. Translate the following sentences into English.

1. Экодизайн – направление в дизайне, уделяющее ключевое внимание защите окружающей среды на всём протяжении жизненного цикла изделия.

2. Истоки эко-дизайна нужно искать в Скандинавии, которая соединила естественные материалы с новаторской формой, а также в Японии, которая традиционно использует природную тематику.

3. Сам эко стиль дает большую свободу для творчества – в нем нет четких правил и границ. Главное, чтобы использовались натуральные материалы и ткани, было много света, пространства и растений.

4. В «экологическом» художественном проектировании промышленных изделий повышенное внимание уделяется экологическим аспектам

производства и функционирования объекта: его материало- и энергоемкости, безопасности для окружающей среды, возможности утилизации по окончании срока службы.

5. Экодизайн, наравне с очевидными и обыкновенными требованиями красоты, удобства и цены, уделяет особое внимание: безопасности в использовании изделия, отсутствии вреда здоровью, сведению к минимуму шумов, выбросов, излучения, вибрации и т. п.

VII. Fill in the gaps with the correct form of these verbs. Pay attention to the new words/phrases in bold. Ask and answer the questions with a partner.

get	be	give	hear	let	call	keep	leave	lose	get

1. Who in your family is usually difficult to …….. **hold of**?
2. Do you usually …….. **your friends a call** on their birthdays?
3. When people …….. **you messages**, do you generally …….. **them back** immediately?
4. How do you usually …….. **someone know** you're going to be late?
5. Have you got friends from ten years ago that you …….. still **in touch with**?
6. Have you …….. **touch with** everyone you knew at your first school?
7. How do you …….. **in touch with** friends who live far away?
8. Is there a person you haven't …….. **from** for years that you'd like to …….. **in touch** with again?

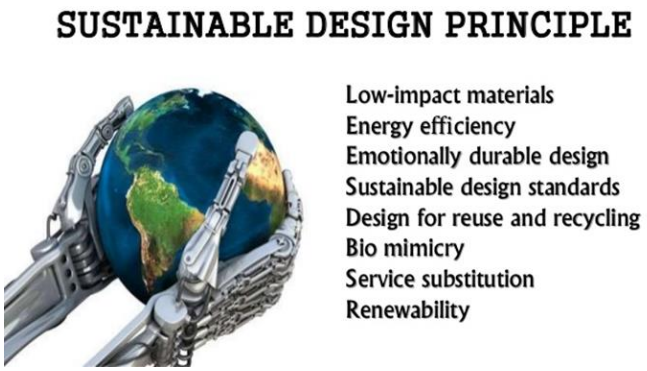
Lesson 2

I. Pay attention to the following words:

to emerge [iˈmɜːdʒ]	– появляться, возникать
biomimicry or biomimetics	– биомимикрия или биомиметика
carbon footprint	– объём выброса углерода
service substitution	– замена, замещение услуг
to exhaust [ɪgˈzɔːst]	– исчерпать; истощать
to compost	– удобрять компостом; компостировать

II. Read the text.

Text 2. SUSTAINABLE DESIGN PRINCIPLES



Some common principles of sustainable design are as follows:

❖ *Low-impact materials*: choose non-toxic, sustainably produced or recycled materials which require little energy to process.

❖ *Energy efficiency*: use manufacturing processes and produce products which require less energy.

❖ *Emotionally durable design*: reducing consumption and waste of resources by increasing the durability of relationships between people and products, through design

❖ *Design for reuse and recycling*: "Products, processes, and systems should be designed for performance in a commercial 'afterlife'.

❖ *Design impact measures for total carbon footprint and life-cycle assessment* for any resource used are increasingly required and available.

❖ *Sustainable design standards and project design guides* are also increasingly available and are vigorously being developed by a wide array of private organizations and individuals. There is also a large body of new methods emerging from the rapid development of what has become known as 'sustainability science' promoted by a wide variety of educational and governmental institutions.

❖ *Biomimicry*: "redesigning industrial systems on biological lines ... enabling the constant reuse of materials in continuous closed cycles..."

❖ *Service substitution*: shifting the mode of consumption from personal ownership of products to provision of services which provide similar functions, e.g., from a private automobile to a carsharing service. Such a system promotes minimal resource use per unit of consumption (e.g., per trip driven).

❖ *Renewability*: materials should come from nearby (local or bioregional), sustainably managed renewable sources that can be composted when their usefulness has been exhausted.

III. Guess the word or word-combination according to the definition.

1. It is a model of car rental where people rent cars for short periods of time, often by the hour.

2. It describes the period of time over which an item is developed, brought to market and eventually removed from the market.

3. The quality of being able to last for a long time without breaking or getting weaker.

4. The process in which goods or services are used to satisfy economic needs.

5. A measure of the amount of carbon dioxide that is produced by the daily activities of a person or company.

IV. Match the following words with their descriptions.

1) service substitution;
2) renewability;
3) healthy buildings;
4) low-impact materials;
5) biomimicry

a) non-toxic, sustainably-produced or recycled constituents;
b) redesigning industrial systems on biological lines enabling constant reuse of materials;
c) shifting the mode of consumption from personal ownership of products to provision;
d) sustainable edifice design;
e) materials should come from nearby sustainably managed replenishable sources.

V. Answer the following questions.

1. What is the main effect of "Emotionally durable design" principle of sustainable design?
2. Give an example of "Service substitution".
3. What idea is behind "Renewability" principle of sustainable design?

VI. Open the brackets using the verbs in the Present Simple Active or Passive.

1. I would like to buy a car that *(either produce)* in the UK or at least has components produced here.

2. With profits of roughly $425 million, it (*produce)* everything from car parts to fridges.

3. Their own products *(heavily promote)* and when customers don't buy them, they become rude.

4. In many ways, our society actively (*promote)* alcoholism.

5. The programme *(design)* to help people who have been out of work for a long time.

6. They *(design)* apartment buildings as well as the interior decoration.

7. The company (*recycle)* all green waste into an excellent garden compost.

8. The end product is the same – waste material *(recycle)* to the benefit of the environment.

9. This point *(develop)* further at the end of this chapter.

10. The store *(provide)* its customers with excellent service.

✓ ***VII. Complete the sentences in a way which is true for you. Work with a partner. Say your sentences in turns. Ask each other follow-up questions.***

If I could live anywhere in my town or city, I'd live ...
If I won a 'dream holiday' in a competition, I'd go ...
If I could choose any car I liked, I'd have a ...
If I could choose my ideal job, I'd be ...
If I had more time, I'd learn ...
If I had to go abroad to work, I'd go to ...

A. If I could live anywhere in my city, I'd live in the old town.
B. Why in the old town?

Lesson 3

I. Pay attention to the following words:

resilience [rɪˈzɪliəns]	– устойчивость, стойкость, гибкость
to cherish	– лелеять, дорожить

to elongate [ˈiːlɒŋgeɪt]	– удлинять, продлевать (срок)
contemporary	– современный
tactile	– тактильный, осязательный, осязаемый, ощутимый
fascination	– восхищение
attachment	– привязанность
counterpoint	– разнообразие, игра контрастов
per se	– по сути, само по себе
profligate	– расточительный; безрассудный
detachment	– беспристрастность; непредубеждённость; отстраненность
to elevate	– поднять, повысить
consciousness [ˈkɒnʃəsnəs]	– сознание; сознательность
quirky ['kwɜːkɪ]	– странный, необычный, причудливый

II. Read the text.

Text 3. EMOTIONALLY DURABLE DESIGN

As an approach to sustainable design, emotionally durable design reduces the consumption and waste of natural resources by increasing the resilience of relationships established between consumers and products.

According to this theory, the crisis of unsustainability is a crisis of behaviour and not one of materials and energy alone. Emotionally durable design looks beyond approaches to sustainable design such as design for disassembly, design for recycling or the specification of low impact materials for example. Instead, it looks to the behavioural drivers of our short-term and unsatisfactory engagements with the material world, and develops strategies to enable longer lasting products that will be cherished and kept for longer. In this way, emotionally durable design reframes the environmental paradigm, increasing resource productivity and reducing waste by elongating the lifespan of products. The theory of emotionally durable design was first published by the British academic Dr Jonathan Chapman (born 1974) of the University of Brighton's Faculty of Arts, in the book Emotionally Durable Design: Objects, Experiences & Empathy.

As a strategic approach, emotionally durable design provides a useful language to describe the contemporary relevance of designing responsible, well made, tactile products which the user can get to know and assign value to in the long-term.

In the emotionally durable design context, product durability is as much about desire, love, fascination and attachment. It is the idea that an item will last because of its emotional connection with the user, rather than because of its physical durability. It presents strategic counterpoints to our throwaway society, by developing design tools, methods and frameworks that enhance the resilience of relationships established between people and things; supporting not the design of durable 'products' per se, but the design of durable meanings, and values, that products deliver.

To understand why we have become so profligate in our consumption, we should look to the underlying motivations of consumers; following the notion of emotionally durable design, there is likely to be a move away from mass-production and towards tailor-made articles and products designed and manufactured with greater craftsmanship. Dr Kate Fletcher of London College of Fashion describes how, "emotionally durable design explains appropriateness as a function of a product's emotional presence, evolution and growth; it is not enough for a product to provoke an emotional response within the user on one occasion; it must do this repeatedly. In effect, a relationship with an object must be developed over an extended period of time.

Chapman provided 6-point framework for emotionally durable design:

1. **Design for Narrative**: users share a unique personal history with the product; this often relates to when, how and from whom the object was acquired.
2. **Design for Detachment**: users feel no emotional connection to the product, have low expectations and thus perceive it in a favorable way due to a lack of emotional demand or expectation (this also suggests that attachment may actually be counterproductive, as it elevates the level of expectation within the user to a point that is often unattainable).
3. **Design for Surface**: the product is physically ageing well, and developing a tangible character through time, use and sometimes misuse.
4. **Design for Attachment**: users feel a strong emotional connection to the product, due to the service it provides, the information it contains and the meaning it conveys.
5. **Design for Fiction**: users are delighted or even enchanted by the product as it is not yet fully understood or know by the user; these are often

recently purchased products that are still being explored and discovered by the user.

6. **Design for Consciousness**: the product is perceived as autonomous and in possession of its own free will; it is quirky, often temperamental and interaction is an acquired skill that can be fully acquired only with practice.

III. Discuss these questions in pairs.

1. Do you have any objects that you hold onto for decades? Why (not)?

2. Why do people want to discard certain objects before they're even broken or tatty?

3. What is 'emotionally durable' design?

IV. Complete the following table with the missing parts of speech.

Verb	Noun	Adjective
	fascination	
		attainable
deliver		
		extended
	enhancement	
expect		
	attachment	

V. Match the words with their definitions.

1. disassembly	**a)** a close connection with the subject you are discussing or the situation you are thinking about
2. craftsmanship	**b)** a very strong attraction, that makes something very interesting
3. relevance	**c)** to love, protect, and care for someone or something that is important to you
4. attachment	**d)** the process of separating a machine or structure into its different parts
5. resilience	**e)** causing damage to the environment by using more of something than can be replaced naturally

6. detachment	**f)** the level of skill shown by somebody in making something beautiful with their hands
7. fascination	**g)** the length of time for which a person, animal, or thing exists
8. unsustainable	**h)** the quality of being able to return quickly to a previous good condition after problems
9. cherish	**i)** the state of not being involved in something in an emotional or personal way
10. lifespan	**j)** a strong feeling of affection for somebody/something

VI. Match the words from both columns to make word combinations. Translate them into Russian.

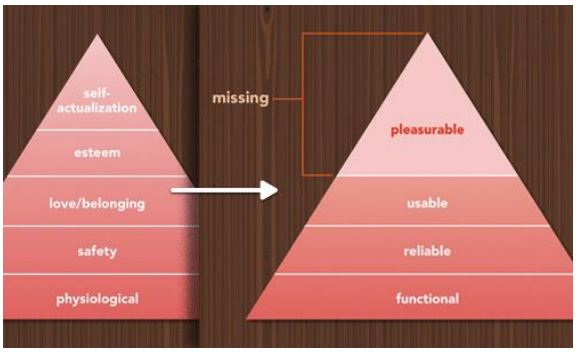
1. to enhance	**a.** a strong emotional connection to the product
2. to get to know	**b.** an emotional response
3. to feel	**c.** the lifespan of products
4. to provoke	**d.** products with greater craftsmanship
5. to reduce	**e.** the resilience of relationships established between people and things
6. to design and manufacture	**f.** the consumption and waste of natural resources
7. to elongate	**g.** responsible, well made, tactile products

VII. Translate the text from Russian into English.

Эмоциональный дизайн

Термин «эмоциональный дизайн» был введен (среди прочих) Аароном Уолтером. В своей книге «Эмоциональный веб-дизайн» он описывает эмоциональный дизайн, используя знаменитую иерархию человеческих потребностей Маслоу, согласно которой людям необходимо удовлетворить базовые потребности, такие как здоровье и

безопасность, прежде чем они смогут думать о потребностях более высокого уровня, например, саморазвитии.



Предложенная Маслоу иерархия человеческих потребностей (слева) и иерархия эмоционального дизайна (справа). (Картинка: Аарон Уолтер)

Согласно данной теории, **продукт должен быть функциональным, надежным и удобным** (именно в этом порядке), прежде чем он сможет доставлять удовольствие. Таким образом, эмоциональный дизайн – это уровень удовольствия от использования, который помещается на вершину функционального, надежного и удобного продукта.

Эффективная стратегия эмоционального дизайна имеет два аспекта:

1. Вы создаете нечто уникальное, превосходящее ваш собственный стиль и вызывающее положительный отклик у пользователей;

2. Вы постоянно используете этот стиль до тех пор, пока он не станет центральной частью вашего творения, уровнем индивидуальности.

Цель состоит в том, чтобы установить с пользователями связь и вызвать положительные эмоции. Положительные эмоции ведут к положительным воспоминаниям, и пользователи захотят и в дальнейшем взаимодействовать с ваши продуктом.

VIII. 1. Look at some quotes about luck. Do you think they are true?

❖ ‘The more I practise, the luckier I get.'

Gary Player, golf player

- 'You've got to think lucky. If you fall into a lake, check your back pocket – you might have caught a fish.'

Darrell Royal, American football coach

- 'Remember that sometimes not getting what you want is a wonderful stroke of luck.'

The 14th Dalai Lama, religious leader

2. Read the questions and think about your answers. In groups of three or four, discuss your answers. Give as much detail as possible.

1. Do you consider yourself in general to be a lucky person? Why (not)?

2. Can you remember a time when you were either very lucky or very unlucky? What happened?

3. Do you know anyone who you think is particularly lucky or unlucky? Why?

Lesson 4

I. Pay attention to the following words:

issue [ˈɪʃuː] also [ˈɪsjuː]	– вопрос, проблема
kitchen unit	– элемент кухонного набора
to reclaim	– утилизировать, использовать
detergent [dɪˈtɜːdʒənt]	– очищающее или моющее средство
to mould	– отливать в форму; формировать
transparent [trænsˈpærənt]	– прозрачный
to detect	– обнаруживать, выявлять

II. Read the text.

Text 4. SUSTAINABLE DESIGNS THAT OFFER ALTERNATIVES TO EVERYDAY PRODUCTS

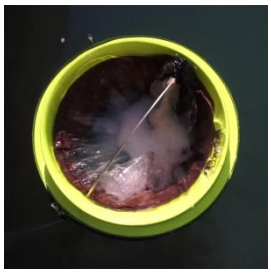
As the state of the environment becomes an ever-pressing issue, designers are developing eco-friendly alternatives to all sorts of products.

1. Kungsbacka kitchen units by Form Us With Love for IKEA

Kungsbacka is IKEA's first kitchen made from recycled plastic bottles and reclaimed industrial wood. Twenty-five plastic bottles are used in each of the units, which were designed by

Swedish studio *Form Us With Love* to make "sustainability available for everyone".

2. Floating Seabin prototype by Pete Ceglinski and Andrew Turton



The Seabin is a floating rubbish bin that can be installed in marinas to filter litter from the water. The floating bin is attached to a water pump that continuously sucks water into the container, separating rubbish or liquids such as oil and detergent.

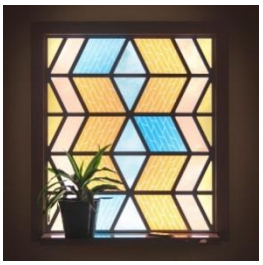
3. Pińatex leather alternative by Ananas Anam

Materials company *Ananas Anam* developed a way to turn pineapple waste into an animal-friendly alternative to leather. Factories in the Philippines separate the strands and felt them together into a non-woven fabric that can be used for clothes, footwear or furniture.

4. Edible six-pack rings by Saltwater Brewery

Florida-based *Saltwater Brewery* used by-products from the beer-making process to create six-pack rings that can safely be eaten by marine wildlife. The team initially experimented with seaweed but soon realised it became too rigid outside of water – which meant it might cut or choke an animal. Instead, they moulded wheat and barley left over from the brewing process.

5. Current Window by Marjan van Aubel



These colourful windows by Dutch designer Marjan van Aubel are made up from coloured solar cells that harvest energy from the sun and convert it into electricity to charge small computer devices.

6. Small Transparent Speaker by People People

This speaker by *People People* is intended as a reaction against excessive consumer waste, particularly electronic waste. It has built-in sensors that detect when parts need to be replaced, repaired or updated, and notifies users via their smartphones.

7. 30 Year Sweatshirt by Tom Cridland

Hoping to promote sustainable fashion, UK menswear designer Tom Cridland created a unisex sweater that comes with a 30-year guarantee, which allows the wearer to send it off for free repairs – to prevent them from throwing it away.

III. Discuss these questions in pairs.

1. Why is the state of the environment becoming an ever-pressing issue?

2. What eco-friendly products do you know?

3. Why are designers developing eco-friendly alternatives to all sorts of products?

IV. Think of some eco-friendly products you have bought recently. Why did you buy them?

V. Complete the following table with the missing parts of speech.

Verb	Noun	Adjective
detect		
notify		
		convertible
	repair	
experiment		
separate		

VI. Complete the sentences using the verbs in the box in the Past Simple Passive.

convert	promote	install	reclaim
replace	mold	repair	update

1. Smoke alarms …… in all the rooms.

2. The heating system …… from oil to natural gas.

3. Faulty electrical appliances …… by an electrician.

4. Mike …… to the position of vice-president of marketing.

5. The files …… with new information.

6. Many of the workers …… by machines.

7. Plastics …… into forms that evoked or described fish, animals, insects, and plants.

8. Antique wood …… for use in the home.

VII. Translate the text into English.

Экодизайнер

От экодизайнера требуется хорошее воображение: нужно продумать вторичное использование старых вещей – их «загробную» жизнь. Однако фантазии должны сочетаться с пониманием технологий производства и внимательностью к деталям. Экодизайнер должен хорошо разбираться в нюансах производства, знать теорию дизайна, быть неравнодушным к окружающей среде.

Сложный и одновременно самый интересный момент в работе экодизайнера – спрогнозировать и продумать все возможные способы производства предмета, различные пути его использования, а также варианты утилизации и вторичного использования.

VIII. Imagine you need to develop an eco-friendly alternative to a product of your choice. Make a presentation of it.

You should mention the following points in the presentation:

1. A description of the product (colours, shape(s), materials it is made of, its functionality, usability and so on).
2. Why is the product eco-friendly? How will it improve standards of living?
3. Its target consumers and main buyers. How will it meet their needs?
4. Price of the product.

IX. Before you read the next passage, talk about these questions.

- What kind of fields do industrial engineers work in?
- What type of problem do industrial engineers solve?

X. Read this report from an industrial engineer. Then, choose the correct answers.

Industrial Engineering
Operations Report.

Turbo motor company.

This report examines the efficiency of Turbo`s factory. It looks at all channels of the supply chain.

Turbo`s daily operations are efficient in many areas. The facility layout uses space well. Workers manage inventory planning without a problem. They appear to handle transportation logistics smoothly. There are no apparent issues with quality control either.

But the factory is not as cost-effective as possible. Making small changes can increase productivity. For example, I recommend improving the workstation ergonomics. One way to do this is to raise the conveyor. Altering the arrangement of the assembly line is another idea. Making such changes will help to enhance worker efficiency.

These modifications will increase work capacity. They will help to streamline the production process as a whole. I suggest making these changes as soon as possible.

1. What is the report mostly about?

- ✓ the facility layout of Turbo`s factory
- ✓ the efficiency of the factory`s operations
- ✓ the reasons for building a new factory
- ✓ the importance of high productivity

2. What aspect of the factory needs improvement?

- ✓ inventory planning
- ✓ quality control
- ✓ positioning of equipment
- ✓ the facility`s leadership

3. What will making the changes NOT do?

- ✓ enhance the workers` efficiency
- ✓ raise a key quality rating
- ✓ improve transportation logistics
- ✓ increase the plant`s potential output

XI. Match the words (1-6) with the definitions (A-F).

1) __ supply chain **2)** __ facility layout **3)** __ assembly line **4)** __ streamline **5)** __ cost-effective **6)** __ logistics	**A.** the arrangement of a factory`s workspace **B.** to make an operation more efficient **C.** worth the money spent **D.** the steps in moving a product form supplier to customer **E.** the organization of an operation **F.** a line of workers or machines in a factory

XII. Choose the word that is closest in meaning to the underlined part.

1. Designing comfortable equipment reduces injuries.

a. logistics
b. ergonomics
c. capacity

2. The equipment that moves materials is broken.

a. conveyor
b. assembly line
c. supply chain

3. Amy manages ensuring quality and safety.

a. ergonomics
b. capacity
c. quality control

4. Update the list of materials and goods.

a. supply chain
b. conveyor
c. inventory

5. What is the production maximum amount?

a. facility layout
b. capacity
c. quality control

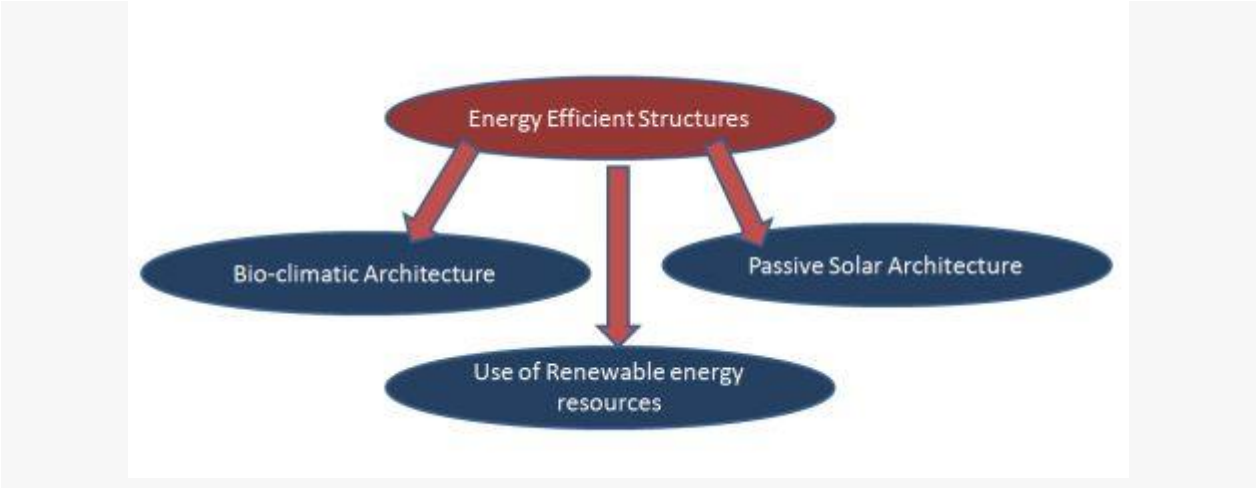
TEXTS FOR COLLATERAL READING

Text 1. Energy Efficiency | Green Building Architecture

Energy Efficiency is one of the key principles of Green Architecture. Energy Efficient Structures can be described as the structures that involve the use of less energy intensive materials required for the construction. The utilization of energy resources by the users of the building also determines the Energy Efficient of the Built Structure.

There are seven important principles of Green Architecture. They are as follows:

1. Site and its surroundings
2. Energy Efficiency
3. Water Efficiency
4. Material Efficiency
5. Indoor Air Quality
6. Waste Reduction
7. Low maintenance costs



The first step towards designing an energy efficient structure is designing the structure in a way that it justifies the principles of Bio-climatic Architecture.

Bio-climatic Architecture is a simple theory of the design of buildings depending on various factors such as:

- Location of the Site
- Micro-climate of the place
- Macro-climate of the place
- Topography of the site
- Natural elements present on the site
- These factors are analysed and then taken into consideration while designing. Conclusions from the study of climatic factors would influence the design factors such as:
- Orientation of the Building
- Form of the Building
- Size of the Openings
- Orientation of the opening depending upon the direction
- Construction of Chajjas or Shades or Pergolas

Bio-climatic Architecture is useful on achieving Material efficiency to a large extent. For example, The North Light is not very harsh. It is pleasant and bright. North lighting is of great importance for the lighting and ventilation of the building.

The glass used for the facades or windows towards North could be of a cheaper quality because energy efficient glass is not really required towards the North side whereas a better quality glass to resist the heat of the sun could be used towards the west side of the structure.

Insulation can also be used to towards West side wall and South Side wall to prevent the overheating of the inside space. This is one feature that helps us achieve Energy Efficiency to a considerable extent. There are also other important factors that contribute towards the energy efficiency of the place. **Bio-climatic Architecture** falls under the category of Passive Green Building Systems.

There are also other design features that have to be incorporated to increase the energy efficient of the building complementing the Bio-climatic principles of design.

- Passive Solar Architecture plays an important role for achieving energy efficiency of a structure.
- Use of Wind Power by the use of turbines for the generation of electricity.
- Hydro-electricity can be produced by constructing hydro-electric power stations.
- Solar Energy can be harnessed with the use of variety of appliances.

For example, Solar Photovoltaic panels, Solar water heater etc

- Biomass also serves as source of immense energy which can be utilized for a number of purposes.

Text 2. Reuse of Waste Materials for Construction Purposes. |Sustainable Development

Reuse of materials is an efficient way to reduce the use of energy intensive materials. Instead of discarding tons and tons of wastes from the factories and homes, some part of it could be used for creative construction. This will help in achieving “Waste reduction” and help us move one step forward towards the sustainable environment.

Chandigarh's Rock Garden | Reuse of Discarded Materials

Our prime goal is to, "Sustain the Sustainable".

Construction of Bottle Houses

Bottle houses sounds weird, isn't it? When we hear about the construction of Bottle Houses, we are really amazed with the thought of utilising discarded glass bottles for such an innovative purpose. A new distinct style of constructing walls with glass bottles of 1L capacity as masonry units and uses cement, stucco, plaster, adobe for the binding purposes resulting in the construction of beautiful stained glass like wall.

Bottle houses

Construction of Compound walls using Rubber tyres

The compo und walls have been constructed using discarded rubber tyres of the cars. The grooves in the tyres provide the necessary adhesion. In this case, the rubber tyres serve as masonry units and cement and adobe are used for the binding purposes.

In this case, aesthetic factor is a little neglected but I would say, the tyre compound wall itself would look so ornamented and out of the world.

Rock Garden at Chandigarh

Chandigarh is a beautifully planned city by Le Corbusier. The Rock Garden in Chandigarh has been designed by using natural and recycled or waste materials.

Various shapes and sizes of the rocks have been used for the steps and the walls. The defective sockets and switchboards that have been discarded from the factory have been used for cladding purposes.

Broken tiles (*плитка*) and stones have been used for the cladding of floors and side walls.

Text 3. Landscape Architecture

If we design a building aesthetically good and also decorate it beautifully from inside, yet if its surrounding outside area is rubbish, then the beauty of the building will be considered reduced. As such the building must have a beautiful surrounding. This is achieved by landscape development.

Landscaping is an art of planning the drives, walks, lawns, shrubs, gardens, flower-beds etc. so as to form a beautiful setting for a building. The main purpose of landscaping is to create a joyful environment round the building and give the occupants a healthy breath, good appearance and natural beauty.

A hundred years ago, the landscape architect was merely a gardener. But the art gradually evolved. Landscape architecture is a specialized branch of architecture which is in fontal stage in India. Just as the architect deals with the buildings, so for the landscape architect deals with the natural sciences like hydrology, soil mechanics, and geology are also necessary for any aspiring landscape architect so that by understanding these he can better relate the development potentials of the environment.

Two main components of the environment have to be considered; the man-made component, which involves man's intervention like the construction of roads, bridges, buildings along with all the necessary infrastructure; and the natural environment like space, water, trees, rocks and the earth. A landscape architect has to consider not the spaces alone but rather the environment's potential, how best to harmonize inner spaces with those outside.

Landscape architecture is therefore not limited to design of gardens and parks but it takes into account the entire area of the city and countryside, characteristics of physical features, topography etc.

If a town is located on the banks of a river, stream, pool, with greenery or such other natural features, care should be taken to lay thereon, the pleasure walks, boulevards, open spaces, planted with beautiful flowering trees. If a country is located along the hill side, it can be planned in the layout as a rock-garden. Even though there are no such natural features, the landscape architect can create beauty and loveliness artificially by providing a fragrant avenue of flowering trees amidst spacious and beautiful lawns.

There is even greater need of planned landscape for factories and industries. Most factories are nothing more than the glorified shed, erected. The architect puts up the structure, sees that facade 100K and quits. It is the landscape architect who can provide aesthetically satisfactory solutions by providing beautiful parks, playgrounds, attractive location of services, stores, network of roads planted with flowering trees etc. Factories planned in this manner have shown improved morale and much cheerfulness among the workers.

One may ask whether landscaping is ever possible or even relevant in present days of land shortages and high-rise buildings or skyscrapers. No doubt it is possible to create a beautiful landscape around the building within the limits of available space, no matter how small it is. Actually the question is how you plan your house, how you organize your space etc. Even in case of multi-storied or high-rise buildings, the open terrace of each apartment can be utilized on the lines of Hanging Gardens at Babylon. These type of terrace gardens are becoming much more popular in high-rise buildings of metropolitan cities. If you design, keeping this in mind, you can achieve with inexpensive landscaping, a pleasing and cheerful environment which is seen to be utmost necessary nowadays in big cities to overcome the large scale and density of over-growing skyscrapers.

Text 4. Importance of Glass in Architecture

There is a special relationship between glass and buildings. Glass is a magical material which has so many different properties and uses, that it has presented Architects with many new possibilities and designs. In their quest for

transparency and safety, Architects often use reinforced, toughened and laminated glasses.

History of Glass Blocks used in Construction

In the early 1800's, individual glass blocks were used to provide light to cellars and ships' bowels – at first, cut squares of simple conventional glass, then prism-shaped pressed glass which allowed light to be dispersed. In order to fix this prismatic glass, they were fitted into steel frame structures in the form of intermediate ceilings or skylights which allowed larger surfaces to become translucent.

In 1904, Joachim, a French architect, built the first dome (купол) of concrete and glass.

The development of hollow glass blocks for vertical structures, which offered the advantage of better noise and thermal isolation in comparison with the solid blocks, took place at the same time.

Glass blocks are manufactured in different sizes and patterns in accordance with the various requirements and applications. The present commercial method of manufacturing allow glass blocks with a maximum surface of 30cm x 30cm to be produced. They are used to produce straight and curved interior and exterior walls.

Why are Glass blocks used?

Glass has the following properties:

Beauty & Versatility Extraordinarily versatile and available in many aesthetically pleasing sizes and styles, glass block offers virtually limitless design possibilities. Glass block walls, partitions and window combine the delicate beauty and light transmission of glass with the strength of glass block. Glass can be made available in several colors. When we combine single sheets of glass in laminated or insulated units, they typically change in overall color and appearance. Glass color appearance can be also conditioned by several environmental factors such as sunlight (midday sun or sunset), reflected sky and clouds.

Visibility & Light Transmission Glass block provides exceptional visibility. It is also scratch-resistant, and transmits up to 80% of available light in both directions without any yellowing, clouding or weathering.

Energy Conservation Glass is a bad conductor of heat. A good double layered glass acts as a good insulator, and thus can help in the conservation of Energy and reducing your power bills. Lower heat-loss is achieved by multiple glazing layers, gases and the use of low coatings.

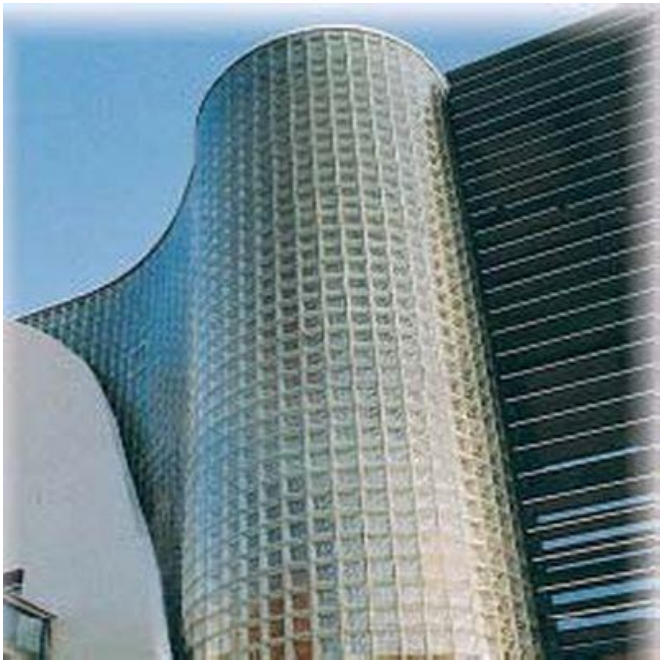
Noise Resistant Sealed glass panes transmit very little sound, and hence can be a good sound insulator. The most common types of glass used are laminated and insulating glass (Double glazed). Laminated glass incorporates a special acoustic PVB interlayer, which absorbs some of the incident sound energy, reducing its passage. Better sound insulation can also be achieved with double-glazed glass in which vacuum-sealed inner spaces and some gases affect sound insulation and provide acoustic stability.

Bullet Resistant Special types of Bullet and blast resistant glass is available that does not shatter, but rather absorbs the projectile energy, thus protecting the inhabitants of the structure. It is basically made by layering a polycarbonate material between pieces of ordinary glass in a process called **lamination**. This process creates a glass-like material that is thicker than normal glass.

Non Load-Bearing Glass block panels are non-load bearing; adequate provisions must be made for support of construction above these panels. Panels are mortared at the sill, with jamb and head details designed to provide for building movement and lintel deflection.

Plain Glass used for the Building Facade

Glass Blocks used for the Building Facade



Text 5. Types of Glass used in the Architectural Field

Sheet Glass. It is the commonest type of glazing glass available. It may also be used for door and window partitions.

Plate Glass. It is used for general glazing purposes in windows, shop fronts, buildings and workshops. Also used for sales counter and table tops after being laminated with plywood or metal sheet.

Wired Glass. Wired glass is a product in which a wire mesh has been inserted during production. It has an impact resistance similar to that of normal glass, but in case of breakage, the mesh retains the pieces of glass. This product is traditionally accepted as low-cost fire glass. It can be used for Skylights and North Light trusses, fire-resisting doors and windows.

Laminated Glass. Laminated glass is a type of safety glass that holds together when shattered. In the event of breaking, it is held in place by an interlayer, typically of (PVB), between its two or more layers of glass. The interlayer keeps the layers of glass bonded even when broken, and its high strength prevents the glass from breaking up into large sharp pieces. It is normally used when there is a possibility of human impact or where the glass could fall if shattered. Skylight glazing and automobile windshields typically use laminated glass.

Flint Glass. This is a special type of glass having high refractive index. It is used for making lenses, table ware, cut glass wares, electric tubes, radio valves and optical glass. It also may be used in electric lamps, thermometers, electron tubes, laboratory apparatuses, containers for food, etc.

Ground Glass. It is a plain glass which has a rough, matte finish. It could be used for window panes and bathroom ventilators and at such places where diffused light is required.

Foam Glass. This special cellular glass has high heat and sound insulation properties. It is lightweight, opaque glass material having a closed-cell structure. Foam glass is light enough to float in water and is impervious to moisture, most fumes, and vermin.

Fiber Glass. Fiberglass is material made from extremely fine fibers of glass. It is used as a reinforcing agent for many polymer products. Sometimes, it is also known as fiber-reinforced polymer (FRP) or glass-reinforced plastic (GRP). It is tough and durable and is used in a variety of places such as in the manufacture of glass based roofing, for insulation of pipes, bends, valves etc., thermal insulation of containers and panel insulation.

Text 6. The 7 Elements of Unity.
Aesthetic Components of Design

The **principle of Unity** deals with visual composition in design. Composition means the relationship between the visual elements. The brick work, timber and concrete which we use as building materials for protection from weather or for structural support, form the visual composition of architectural composition. To get a good composition, the elements of unity should be chosen carefully.

Unity therefore deals with the arrangement of building materials and building parts (floor, wall, roof, column, beam, etc) to create a good composition.

7 key Elements of Unity

1. Texture
2. Colour
3. Tone
4. Direction
5. Proportion
6. Solid and Void
7. Form and Shape

Consider materials such as stone, glass and steel. They are available in a variety of colours, tones, textures, shapes, proportions, etc. Various compositions of these material properties are possible but the challenge lies in arising at the most pleasing composition. The texture or colour of a single brick or wood panel will differ in effect when it forms a part of the larger composition such as brick wall or a door frame set in a wall.

Texture. The word texture generally refers to the appearance and feel of a surface. However, it could also mean the physical composition or structure of something, especially with respect to its size, shape and arrangement of its parts.

In this figure, a variety of textures can be seen in the roofs, walls and paving. Strongly identifiable shapes in roofs and battered walls are seen as repeated units, presenting a definite and distinguishable feel of the surface.

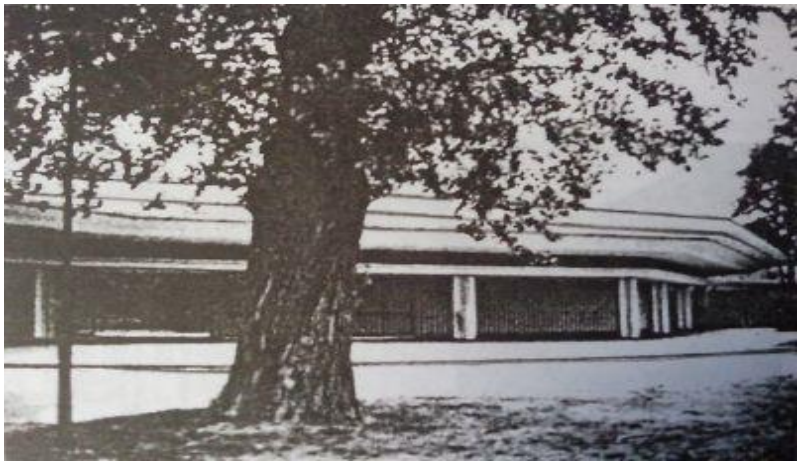
Individual dwellings within a group, as well as decorations and carvings in buildings can create an effect of texture.

Colour. Here colour refers to hue (colour range). Colour is one of the pronounced elements of aesthetics and its selection is very crucial to the overall effect it has on aesthetics. A variety of effects can be produced by varying luminance, fullness and its transparency.

Tone. Tone is related to the colour theory and varies from the neutral scale of white to black through a range of greys. This plays an important role in drawings used to represent buildings.

Direction. Every building has elements which suggest direction. In most buildings, these are strong elements that suggest vertical and horizontal direction. The total shape of the building, or parts of the building or its structural components (beam, column, wall, ceiling etc) its windows and other openings all suggest the direction.

Example: *City Theatre, Helsinki, Finland*



This building shows a strong dominance of horizontality given by the roof line and overhang in contrast from the columns. The directional emphasis is reinforced by the use of a strongly ribbed cladding tile, which can be seen running horizontally on the eaves soffit and the beams linking the column heads and the solid parts of the wall behind them.

Here a dominantly vertical composition is shown where the verticality is reinforced by the faceting of the envelope. Contrast is given by the generally horizontal emphasis of the fenestration. The curving round of the plan affords more window space for the living accommodation of the southerly side relative to the service and circulation space on the north i.e., stairs, lifts, passage access to flats.

Proportion. In this context, proportion is the geometric relationship of the sides of volumes (e.g., rectangles). It is also the ratio and comparative size of individual parts of the composition.

Ducal Palace, Urbino, Paris illustrates the concept of unity through proportions.

Ducal Palace, Urbino, Paris

We cannot measure these relationships accurately by eye, but we can compare them and try to judge the relationship of one to another on proportional basis. Buildings belonging to Classical and Gothic Architecture have better proportional relationships than most buildings today.

Solid and Void. The relationship between solid (walls, roofs, etc) and void (windows and other openings) structural units is very important to form a good composition.

Cemetery Chapel, Turku, Finland

Cemetery Chapel, Turku, Finland shows the relationship between solid and void structural units. In this structure, the dominance of solid material contributes to the sense of enduring unity.

Form and Shape. Form and shape can be clearly observed in the overall arrangement of a building or in parts of a building (windows, doors etc) which have geometric shapes. Repetition or variation of a particular form can provide strong elements of composition.

Parts of a building, for example, windows depicting form represent geometric shapes such as a square or a rectangle. Repetition of a window unit form a good element of composition.

Shape helps to identify different forms, for example, the pitch of a roof will provide a certain form which it is easy to identify and also easy to relate to other roofs which have a similar pitch. When a roof is of a distinctly different shape, it will look strongly dissimilar.

Text 7. Green Roofing Technology. Eco-friendly Roofs

A **green roof** is partially or completely covered with vegetation and a growing medium, planted over a waterproofing membrane.

Green roofs usually do not involve construction of complex drainage and irrigation systems. The use of "green" refers to the growing trend of environmentally friendly and does not refer to roofs which are merely colored green, as with green roof tiles or roof shingles.

Traditional sod roofs

There are different ways in which green roofs are constructed. Container gardens on roofs is one of the types of green roofs, where plants are maintained in pots, are not generally considered to be true green roofs, although this is an area of debate. Rooftop ponds are another form of green roofs which are used to treat greywater.

It has various advantages and serves several purposes such as absorbing rainwater, providing insulation, creating a habitat for wildlife, and helping to lower urban air temperatures and combat the heat island effect.

There are two types of green roofs namely:

Intensive roofs

Intensive roofs are thicker and support a wide variety of plants and are heavier requiring more maintenance.

Extensive roofs

Extensive roofs are covered with a light layer of vegetation and are lighter than an intensive green roof.

Chicago City Hall

The term green roof may also be used to indicate roofs that use some form of "green" technology, such as a cool roof, a roof with solar thermal collectors or photovoltaic modules.

The hierarchy of plant life offers an extensive palette for a landscape designer to draw from. Many types of vegetation can be used in a very effective way to modify the micro-climate of the site. Vegetation can be classified as grass, low shrubs, high shrubs, deciduous trees, evergreen trees etc.

Extensive green roofs are often not accessible and are characterised by:

- Low weight
- Low capital cost
- Low plant diversity
- Minimal maintenance requirements

The growing medium typically made up of a mineral based mixture of sand, gravel, crushed brick, peat, organic matter and some soil.

It varies in depth between 5-15cm (2'-6") with a weight increase of between 72.6-169.4 kg/m^2 when fully saturated.

18th century Green Roofs

Advantages of Green Roofing

- Lightweight roofs generally does not require reinforcement.
- It is suitable for large areas.
- It is suitable for roofs with (0 to 30^{o} slope)
- It involves low maintenance costs and has long life.
- There is no need of irrigation and any specialized drainage system.
- Less technical expertise needed.
- Often suitable for retrofit projects.
- It looks more natural and is relatively inexpensive.

Disadvantages of Green Roofing System

- Less energy efficiency and storm water retention benefits.
- Roof insulation can be provided using a roof system of precast hollow terracotta curved panels with nominal GI reinforcements.
- A nominal layer of concrete of only 2” thickness at the crown of panel was poured into place.
- The hollow terracotta layer works as heat resisting layer.

For Flat Roofs

- Effective roof insulation can be provided using vermiculite concrete.
- It reduces the roof construction by 60%.
- Roof insulation can be provided by terracotta tiles flooring above the waterproofing material and lime concrete is laid.

Text 8. Lighting Design for Interiors. Types of Lighting Techniques

Lighting is an art of illuminating the space in a way to create illusion. Lighting Techniques have been broadly classified into two categories:

1. Primary Lighting
2. Secondary Lighting

Primary Lighting and Secondary Lighting are used depending on the requirement of the kind of illumination required at a certain place. At some places, provision of only Primary Lighting would serve the purpose, whereas where a meek ambiance is required, secondary lighting would serve the purpose.

Lighting in a Restaurant

Sometimes, if efficient and ambient lighting is required and the cost of the lighting design is not an issue then Primary and Secondary lighting are both used in layers to create a dramatic effect.

Apart from the techniques of primary lighting and secondary lighting, the material used in the interiors also plays a vital role in creating a perfect ambiance (атмосфера).

Primary Lighting

As the name suggests, primary lighting is incorporated in every lighting design. It is like the first layer of lighting which is the most essential one. The space to be designed is first designed for proper and comfortable illumination, effects are then added to the lighting design by placing luminaries differently.

Primary lighting is also designed in two layers. They are as follows:

1. General lighting
2. Localized lighting

Depending on the area and need for illumination of the space, a lighting designer decides whether General or Localized Lighting is to be used or a combination of both for better illumination and effects.

General lighting

General lighting is a term to describe the general illumination of the space. It is further subdivided into two types:

1. Downlighting techniques
2. Uplighting techniques

Downlighting

As the name “Downlighting” suggests, the luminaries are designed to face downwards to achieve downlighting effect.

Downlighting techniques are of three types:

1. Direct lighting
2. Indirect lighting
3. Semi-direct lighting

Concealed Lighting | Semi-direct lighting technique

Uplighting

Uplighting is a popular lighting effect created by strategically placing lighting fixtures on the floor and pointing them up. Thus creating the effect of "up lighting". Uplighting is a very effective way to improve dramatically the ambience of an event space.

Accent walls with color, highlight special areas, or cast a welcoming and festive glow through your event venue with uplighting. Fantastic way to spruce up a drab venue!

Perfect for weddings, corporate events, concerts, school dances, birthday parties, bar/bat mitzvahs, anniversary parties, or any party you're hosting. You can use uplighting in any size event venue, or even just a small home. This effect can be made with the help of:

1. Uplighting lamps
2. Free standing lamps
3. Suspended or wall mounted lights
4. Lights fixtures incorporated in the furniture

Localized lighting

Lighting generally arranged with respect to the visual tasks or work areas is called localized lighting. It reduces task illuminance to 50% of the general lighting. Both downlighting and uplighting techniques are used in combination to obtain localized lighting.

Disadvantages of Localized lighting system

1. Switching system
2. Wiring

Localized uplighting reduces shadows. Localized plus general lighting are used in jewelry showrooms. It is an economical way of providing high illuminance for small areas (not monetary)

Lighting Techniques

Lighting Techniques play a very important role in creating soothing ambience. It could be a room, a residence, a building facade or ambient lighting in the Landscaped Gardens…

Laser Effects

Spotlights

- Spot lights are light sources that send out a cone of light. It is usually used in stage performances. A cone of light falls on the person on the stage and the movements of the person are tracked by the light.
- It has a defined conic volume, and is used to illuminate objects within this conical volume.
- Torches, desk lamps and theater lights are all examples of spot lights, but mostly spot lights are used in stage performances.

Text 9. Daylight factor

Skylight providing internal illuminance

Daylighting is the practice of the designing various types of openings to admit daylight into the working space for efficient and comfortable living. The orientation, shape and size of the openings play an important role in daylighting.

Daylighting could be provided with the help of windows, skylights, courtyards etc.

Daylight factor can be defined as the sum of all daylight reaching an indoor reference point.

The three important components considered for the estimation of total amount of daylight reaching a particular point is as follows:

1. Direct light of the sun
2. External surfaces reflecting light directly to the point
3. Internal surfaces reflecting and interreflecting light to the point

Daylighting is usually considered on a horizontal plane since the work plane is horizontal (flooring, seating areas, work areas etc).

Factors in vertical planes are also considered for specifying daylighting values for special cases. For example, vertical daylighting is necessary in classrooms for illuminating noticeboards, blackboards, pictures and paintings that are hung on the wall.

Type of Daylighting. The type of daylighting depends on the task to be performed in that space. For example, the type of daylighting required in a classroom is different from that required in a residence. The type of daylighting required for a residence is solely evaluated in terms of horizontal plane except for any specific room, which is to be utilized for other activities like painting, or any room, which is going to be used as an exhibit room.

Whereas classrooms should be enlightened with natural light considering both the planes, that is, horizontal and vertical planes.

Text 10. Underwater Lighting Techniques. Aqua Architecture

Under water lighting deals with the lighting systems placed inside water entities like swimming pools, fountains, etc., and some times even in smaller areas like Jacuzzis. This aspect of lighting mainly depends on the various physical properties of water (refraction, reflection etc. of stand still and moving water). Under water lighting also deals with the effects of lighting placed above water, on and in water.

Water fall lit from beneath showing the 'Glowing steps' effect

Underwater lighting also deals with the effects of lighting placed above water, on and in water.

Basic effects involving underwater lighting

- **Surface effects:** effect of light on the surface of the water and the ground below forming crinkles or patches of light.
- **Scatter and diffusion:** the scattering of various wavelengths of light and the diffusion (strong beams of light are broken down to ‘areas’ of light).

The difference between direct light and diffused light can be seen in the two pictures

- **Loss of color and loss of intensity:**

In under water lighting the elements of the illuminated are appear to have undergone a loss of color as in the bright blues turn into paler shades and the contrast diminishes, lighting can be used to compensate or enhance these effects.

Why is it used?

Underwater water lighting systems are basically used to compensate or accentuate the above stated effects in water in coordination with the other elements of design present in the environment of design.

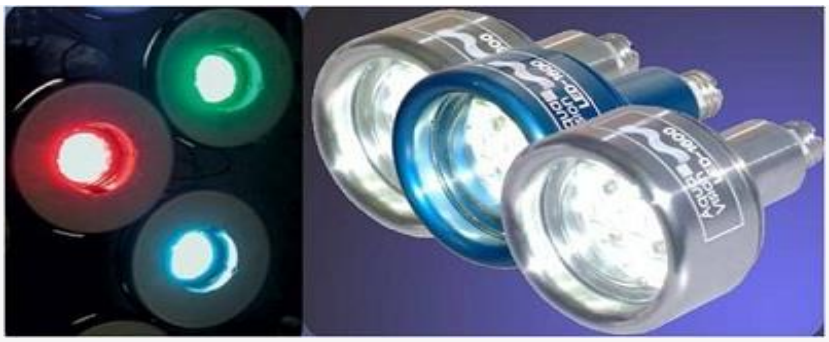
Various types of underwater lighting equipment

Under water lighting equipment consists of :

1. L.E.D lighting fixtures
2. Spot lighting fixtures
3. Area lighting fixtures
4. Volumetric lighting fixtures etc.

L.E.D lighting

L.E.D lighting (light emitting diode) is the most energy efficient lighting systems available today but require a very expensive initial cost (example: a 2 x 2 ft halogen panel would cost around 800 rupees but the same one with led lights would cost around 7000 rupees around 9 times more)



LED lighting

The advantages we get by using led lights is basically a very low maintenance cost approximately 20 times lesser in terms of electricity bills and hence these type of fixtures is advisable in places where the savings outweigh the investment in a reasonable amount of time.

The other advantage being that they last very long, on an average 100,000 hours as opposed to the 10,000 to 20,000 hours for regular halogen and other lamps.

L.E.D lights also provide another advantage, that of providing almost zero temperature changes in the water. L.E.D lights basically convert all the energy into light unlike the normal lamps were we have a large amount of heat also produced.

General under water lighting fixtures

General underwater lighting refers to the non-L.E.D lighting systems like the regular tungsten filament lighting fixtures, halogen lighting fixtures etc., these systems are under the same category as more or less they use the same over heating of the filament technique to produce light.

Though not as advanced as the L.E.D systems in providing perfect lighting these lighting systems have been successfully providing excellent lighting systems with primarily cost being their strongest factor in contrast to the L.E.D systems.

These fixtures are available for a variety of applications like:

- Swimming pools
- Water falls
- Spas and other non-sport recreational water elements
- Jacuzzis
- Showers
- Fountains
- Misters (misting solutions)
- Aquariums and Aqua domes

Underwater lighting makes the waterbody a unique part of the environment. Its pleasing effect adds to the aesthetic appeal of the structure.

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4. БЛОК КОНТРОЛЯ ЗНАНИЙ

Unit “Technic around us”. Revision

I. Match a line in A with a line in B.

A	B
1. What are you interested in? **2.** What did he do yesterday? **3.** Will you study the commercial applications of minicomputers at your lab class tomorrow? **4.** Will you explain some computer concepts to me, please? **5.** When did you begin to study computer science?	**a.** Certainly, with pleasure! **b.** Long time ago. **c.** I’m interested in computer systems. **d.** He made a new program for a microcomputer. **e.** I expect so.

II. Translate the text into Russian.

Computer is a complex electronic machine. Its basic job is the processing of information. For this reason, computers are known as devices, which accept 2 kinds of information in the form of instructions. The former is called programs and the latter is known as data.

A modern computer today performs millions of logical operations and it doesn’t get tired. Sometimes it seems that a computer operates like a mechanical “brain”. However, it cannot do anything unless a person tells it what to do and gives it the appropriate information. Computers replace people in dull, routine tasks, but they will not replace human beings in every sphere of life. Though nowadays scientists are trying to devise the “Intelligent Computer”.

III. Insert the necessary prepositions.

1. Students at the Technical University often carry … different experiments.
2. Although Max gets very tired he always goes … working.
3. A lot depends … computers today.
4. Minicomputers save a great deal … time.
5. All the students of our University have access … the Internet.
6. This new device will find wide application … many branches of industry.

IV. Translate the sentences into English using your active vocabulary.

1. Компьютер выполняет многие виды расчетов быстро и точно.

2. Через несколько лет компьютеры станут меньше и более мощными.

3. В своей работе мы используем разные виды компьютеров.

4. Компьютеры состоят из программного и аппаратного обеспечения.

5. Глобальная компьютерная сеть Интернет включает миллионы пользователей во всем мире.

6. Студенты технических вузов часто выполняют различные математические операции при помощи компьютера.

7. Новое поколение компьютеров выполняет миллиард операций в секунду.

Unit "Design". Revision

I. Give synonyms to the following words and expressions.

1. to put into effect
2. a simple, quickly-made drawing
3. to make use of something or use it for a practical purpose
4. to judge the value or worth of someone or something
5. to need or demand
6. to suggest or think of an idea or plan
7. to improve something by making small changes to it
8. to finish something successfully or to achieve something
9. relating to the enjoyment or study of beauty
10. to fail to see or notice something

II. Complete the sentences below with the words from the box.

define dimensions apply outline brainstorming	implemented achieves develop sketches esthetic

1. At the meetings, we presented major findings of the study and a proposed ... for the final project report.

2. All that remains of the paintings are the preparatory … and photographs of poor quality.

3. We have chosen to ... the scope of our study quite broadly.
4. It's simple, it's to the point, there's a lightness of feel to it, and it ... results.
5. As for ... value, I would bet on the architect whose project reflects enduring human values in architecture.
6. The images can be viewed in three … using these special glasses.
7. They were also places for local artists to ... new works.
8. Isn't technology always developed years ahead of when it is … on a mass scale.
9. Now is the time to … the insights you have gained from your studies.
10. That is why it is very important to have ... sessions to get better ideas.

III. Translate into English.

1. Многие изображения являются собственными набросками художника.
2. Их мебель была скорее эстетической, чем функциональной.
3. Он сделал карандашный рисунок старого дома.
4. Правильно ли вы определили все картинки?
5. Это действительно не решает проблему.
6. Студенты выполнили задание менее чем за двадцать минут.
7. Она придумала новую идею по улучшению продукта.
8. Невозможно оценить эти результаты, не зная больше об исследовании.
9. У музея есть артефакты, относящиеся к доисторическому времени.
10. Ее план не предлагает реального решения проблемы.

Units “The Role of a Designer”, “Industrial Design”. Revision

I. Give synonyms to the following words and expressions.

1. favourable or advantageous
2. the study of people's efficiency in their working environment
3. the exclusive right to make copies, sell or market works of art, music and literature
4. an amount of money that you pay for professional advice or services
5. deceitful, illegal
6. that is possible and likely to be achieved

7. a photographic copy of an early plan for a building or machine
8. to communicate with somebody, especially while you work
9. immediately noticeable because it is particularly interesting, bright or attractive
10. effective or productive in relation to its cost

II. Give English equivalents to the underlined words, using them in the correct form.

1. The company *разработала* a computer program that enables people to design their own homes.
2. There are lots of problems with that sort of design, but it should be practically *осуществим*.
3. She *не определила* the dimensions of the product yet.
4. The company *создает* a positive image now.
5. Mike *отвечал за* designing the entire project.
6. Our marketing people have come up with a great idea for the *запуска* of the new model.
7. It was important to measure the *удобство использования* of each product.
8. Painting murals on a building to make it more visually appealing is an example of improving the *эстетики* of the building.
9. Further information *доступна* on request.
10. *Затраты на производство* are the resources used to create something.

III. Translate the following sentences into English.

1. Отличительная особенность промышленного дизайна – его ориентация на массовое промышленное производство.
2. Промышленный дизайн нацелен на потребности рынка. Для увеличения объема продаж в условиях жесткой конкуренции производителям приходится прибегать к различным методам, самым действенным из которых является интересный и яркий дизайн выпускаемой ими продукции.
3. Промышленные дизайнеры стараются определить облик окружающих нас предметов бытового назначения и одновременно пытаются сделать их максимально функциональными.

4. От удобства пользования, функциональности и внешнего вида изделия в немалой степени зависит его успех на рынке, поэтому промышленный дизайн сегодня чрезвычайно востребован.

5. Промышленный дизайнер занимается художественным проектированием объектов массового промышленного производства. Сюда, в частности, можно включить следующие категории товаров:

– бытовые приборы;

– автомобили и другие транспортные средства;

– технологическое оборудование для промышленного производства (станки и другая техника);

– инженерные устройства и сооружения;

– элементы интерьера (мебель).

6. При создании дизайна объектов промышленного назначения (сельскохозяйственного оборудования, станков) доминируют такие технические требования: эргономика, технологичность производства, экономичность и экологическая безопасность.

Unit “Sustainable Design”. Revision

I. Give synonyms to the following words and expressions.

1. to act in accordance with a wish or command

2. capable of being renewed

3. conserving an ecological balance by avoiding depletion of natural resources

4. the powerful effect that something has on somebody/something

5. a sudden serious and dangerous event or situation which needs immediate action to deal with it

6. to appear by coming out of something or out from behind something

7. to use something completely

8. following modern ideas in style or design

9. to cause a particular reaction or have a particular effect

10. the length of time for which a person, animal, or thing exists

II. Give English equivalents to the underlined words, using them in the correct form.

1. How long will it be before the world's fuel supplies *исчерпаются*?

2. An effort is under way to resurrect the museum with a focus on crafts and design, rather than *современное искусство*.

3. The reason why we work on the solar car is to show that there is the applicability of *возобновляемых ресурсов*.

4. Polypropylene is being used more and more widely in the manufacture of carpeting due to its high *устойчивости* to wear and stain proof properties.

5. I have always had a *восхищение* for botanic gardens.

6. Given the ecological conditions, individual investments in groundwater exploitation may prove to be costly and *неустойчивыми*.

7. He sketches a design first and then *отливает (в форму)* the precious metal.

8. As a result, the net effect of sustainable design to date has been to simply improve the *эффективность* of rapidly increasing impacts.

9. We need to set challenging but *достижимые* targets.

10. Some of these disasters, such as climate change, are the direct result of our *расточительное использование* of cheap energy.

III. Translate the following sentences into English.

1. Рисунки, эскизы, современные картины и фотографии дополняют текст.

2. Это не дешево, но материал известен своим качеством и долговечностью.

3. Они хотят знать, как именно вы собираетесь продвигать продукт на рынке.

4. Утилизируйте стеклянные, бумажные, металлические и пластиковые изделия, чтобы уменьшить загрязнение

5. Заменить эти машины было слишком дорого.

6. Экодизайн направлен на снижение негативного воздействия на окружающую среду.

7. Основным аспектом экологического дизайна является использование только натуральных, экологически чистых материалов.

8. Устойчивый дизайн – достаточно популярное направление в мире архитектуры и стиля, который являет собой самые разнообразные прочные и качественные продукты, выполненные из экологически чистых материалов.

9. Экологический дизайн появился как ответ на массовое производство, вредное для окружающей среды.

10. Простота, гармоничность, естественность – это то, чему мы можем учиться у природы, и чего так не хватает в современном мире, полном стресса, иллюзий и ненужных вещей.

SELF-TESTING

Test 1. Pronouns

1. If there are … calls for me, can you ask to leave a message?

1. some 2. none 3. any 4. no

2. … should be present at the meeting. A very serious question will be discussed.

1. someone 2. any one 3. everyone 4. no one

3. "What do you want to eat?" " … . I'm so hungry."

1. nothing 2. anything 3. somebody 4. any

4. … came to visit him while he was in hospital.

1. nobody 2. nothing 3. any one 4. some

5. … magazines on the table are not mine.

1. some of 2. any of 3. some of the 4. nobody

6. They've got too … money. We ought to help them buy this house.

1. a little 2. little 3. much 4. many

7. When we traveled we visited … interesting places.

1. few 2. a lot of 3. plenty 4. many

8. There are many clocks in the office but … of them work properly.

1. little 2. few 3. much 4. a little

9. She isn't very hungry. She has just had … soup.

1. few 2. a few 3. a little 4. little

10. The job … isn't a problem. It's my boss.

1. himself 2. it 3. myself 4. itself

11. While cooking supper my father burnt … with hot oil.

1. oneself 2. him 3. his 4. himself

12. I'm going to Brest on Saturday. … is giving a party.

1. a friend of me 2. a friend of mine 3. mine friend 4. a friend of my

13. These are not … gloves. … are leather.

1. me, my 2. my, myself 3. my, mine 4. mine, my

14. If you don't behave …, I shall put you all to bed early.

1. yourself 2. yourselves 3. myself 4. ourselves

15. I think I'd go back to Austria. We really enjoyed … there.

1. it 2. itself 3. ourselves 4. ourself

16. I don't feel … well today. I don't know what's wrong with me.

1. me 2. my 3. mine 4. –

17. He's quite a sociable person, but there are times when he really wants to spend some time ….

1. of his own 2. on his own 3. his own 4. with him own

18. She started … hairdressing business when she was only sixteen.

1. her own 2. on her own 3. of her own 4. herself

19. We've saved some money and now can buy a cottage ….

1. weselves 2. of our own 3. our own 4. by us

20. When the train arrived at the railway station … passengers got their suitcases. So we picked up … too.

1. no, our 2. others, our 3. some, ours 4. another, ours

21. You are not the only one who failed to hear the news. I didn't ….

1. neither 2.both 3. either 4. also

22. I have been talking to that strange man for an hour but I still can't understand if he is … Spanish … Portuguese.

1. either, or 2. neither, or 3. neither, nor 4. either, nor

23. She said she would contact me but she … wrote … phoned.

1. either, nor 2. neither, nor 3. neither, or 4. either, or

24. Peter spent … money you gave him.

1. all the 2. whole the 3. every 4. each

25. "Have you done all these tasks?" "Yes, …".

1. everybody 2. everything 3. every of them 4. every one

26. … Mary and Stacy are designers.

1. both 2. all 3. none 4. two

27. You will have to talk to … person alone to find out what happened.

1. both 2. each 3. every 4. all

28. … of the applicants he interviewed were suitable for a job.

1. every 2. none 3. others 4. the whole

29. … that he needs is a good rest. He's very tired.

1. all 2. everything 3.whole 4. each

30. There is … need to do the washing up. The maid will do it.

1. none 2. neither 3.no 4. either

31. We spent … evening painting the floor.

1. whole 2. all 3. both 4. others

32. There was an interesting scientific program on television yesterday but … us saw it.

1. none 2. all 3.each of us 4. none of

33. … Clyde … Laura could give us a lift.

1. neither, and 2. neither, or 3.either, or 4. either, nor

34. Jane didn't say a single word … the time she was there.

1. whole 2. all 3. both 4. others

35. … you start doing some work or I'll fire you.

1.either 2. neither 3. all 4. both

36. "Which perfume do you like best?" "I don't really like … of them."

1.either 2. neither 3. all 4. both

37. The twins' grandfather gave them … five pounds for their birthday.

1. some 2. each 3. everybody 4. any

38. I need … pair of shoes; these are falling apart.

1. other 2. others 3. the other 4. another

39. There was a good film on TV … night. Did you see it?

1. the other 2. another 3. other 4. the other one

40. We are leaving now; … will join us later.

1. anothers 2. other 3. the others 4. the other

41. He has to write … two pages before the article is finished.

1. the others 2. another 3. others 4. every other

42. This was the only house that we could afford; all … were too expensive.

1. others 2. another 3. the other 4. the others

43. Bob plays football every ... day.

1. other 2. the other 3. others 4. anothers

44. Some modern novels are very exciting, while … are so boring!

1. others 2. other 3. another 4. the other

45. Although they work together, they don't get on with ….

1. every other 2. another 3. one another 4. other

46. … happens I'll still be his friend.

1. whatever 2. whichever 3. whenever 4. whoever

47. Emma and Sara have known … since their childhood.

1. every other 2. another 3. each other 4. other

48. I knew very well … he was going to tell me.

1. which 2. that 3. what 4. another

49. We are sure … she will win a gold medal.

1. which 2. that 3. what 4. whoever

50. He came home very late, … made her suspect him in faithlessness.

1. what 2. that 3. another 4 which

Test 2. Adjective \ Adverb

1. You look so … .What's up?

1. untidily 2. utidy 3. untidier 4. untidiest

2. Her voice sounded …. She was nearly crying.

1. bitterly 2. bitterer 3. bitter 4. bitterest

3. It is becoming …. Put on your coat.

1. cold 2. coldest 3. the cold 4. the colder

4. The fish tasted ....

1. well 2. good 3. badly 4. salty

5. People know him to be a …-behaved and …-hearted person.

1. well, good 2. good, smart 3. kind, broad 4. well, kind

6. She is so …-minded and often forgets her keys.

1. good 2. broad 3. absent 4. well

7. He is very …-tempered and doesn't get on with everyone.

1. bad 2. kind 3. smart 4. salty

8. Can you fix that dripping tap? It's getting on my nervous – it's really ….

1. irritated 2. irritating 3. irritable 4. well

9. I was really … to see Sam at the party.

1. surprising 2. surprise 3. well 4. surprised

10. I find it … to lie on the sofa and listen to music after a hard day's work.

1. relaxing 2. relaxed 3. relax 4. badly

11. I get … when people throw rubbish down in the streets.

1. annoying 2. annoy 3. annoyed

12. I don't find horror films at all …, I find them quite funny.

1. frighten 2. frightened 3. frightening

13. She was … upset by his behaviour. He came home so … that night.

1. deeply, late 2. deeply, lately 3. deep, lately

14. She took a … knife and looked at me so … that I immediately left the room.

1. sharply, sharp 2. sharp, sharply 3. sharper, sharp

15. I was … when I realized that I had … enough money to pay the bill.

1. embarrassed, hardly 2. embarrassing, hard 3. embarrassed, harder

16. He came … in the race and was … by his performance.

1. last, disappointed 2. latest, disappointed 3. latter, disappointing

17. They checked all the documents … and … signed that profitable for both sides contract.

1. close, easy 2. close, easyly 3. closely, easily

18. If you buy three pockets of chips, the fourth you'll get ….

1. free 2. freely 3. more freely

19. It is … believed that politicians are people who can't be … trusted.

1. wide, full 2. wide, fully 3. widely, fully

20. I was … dead when I heard a barking dog following me.

1. near 2. nearly 3. nearer

21. Honesty is … policy.

1. the best 2. better 3. more better 4. the better

22. … generation declares war. But it is the youth that fight and die.

1. oldest 2. elder 3. eldest 4. older

23. … of all I like to watch serials.

1. less 2. little 3. least 4. smaller

24. What's the … news of today?

1. later 2. last 3. lately 4. latest

25. If you are interested in … details ask the head of the office.

1. further 2. farther 3. furthest 4. farthest

26. Hotels are becoming … nowadays.

1. more expensive 2. the most expensive
3. expensiver 4. the more expensive

27. His ... words were: “Bye, baby”.

1. latest 2. last 3. late 4. least

28. The Hermitage is ... museum in Russia.

1. the most famous 2. the famousest
3. more famous 4. famouser

29. The village was situated ... than I expected.

1. furthest 2. the farthest 3. further 4. farther

30. Susan is … interested in art than in music.

1. much 2. the more 3. the most 4. more

31. Who is the ... chess-player in your class?

1. best 2. well 3. good 4. better

32. The damage to the car could be … than we expected.

1. badly 2. worse 3. the worst 4. the worse

33. The cake is … the one you made last night.

1. sweeter than 2. sweetest 3. sweet as 4. more sweeter than

34. It took Kate … to do this work, than she expected.

1. long 2. more longer 3. the longest 4. much longer

35. The people who arrive … get the best seats.

1. more earlier 2. most early 3. the earliest 4. much early

36. … we leave … we will arrive.

1. the earlier, the sooner 2. the early, sooner
3. the earliest, the soon 4. the earlier, sooner

37. Could you speak …, please?

1. distinctlier 2. most distinct 3. less distinctly 4. more distinctly

38. The train goes so … that I can’t see the beauty of this landscape ….

1. fast, properly 2. fastly, properly 3. faster, proper 4. fastlier, properier

39. John is a rich person: he even has … to buy an airplane for his own family.

1. very money enough 2. very money
3. money enough 4. enough money

40. You may dive safely here, the lake is ….

1. enough deep 2. deeply enough 3. deep enough 4. quite deeply

41. Her face had relaxed, the tension had gone. It looked … and ….

1. more younger, more beauty 2. more young, more beautiful
3. younger, beautifully 4. younger, more beautiful

42. I found it difficult to answer him. I was … to be able to think clearly.

1. enough confused 2. confusing too
3. very confusing 4. too confused

43. She ran to the station as … as she could.

1. quickly 2. quicklier 3. quickest 4. quicker

44. The exam was … than the previous one, that we fell asleep immediately after it.

1. much difficult 2. much more difficult
3. by far difficult 4. far difficult

45. This novel is … I read last month, that I can't stop reading it.

1. ten times more exciting 2. more exciting in ten times
3. ten times as exciting as 4. in ten times much exciting

46. This lake is the same … as that one.

1. deep 2. depth 3. deeply 4. more deep

47. This encyclopedia costs … the other one.

1. more 2. twice more than
3. twice as many as 4. twice as much as

48. The more you study … you will become.

1. the more smart 2. smarter 3. smarter 4. the smarter

49. The boys were getting … all the time.

1. the tallest 2. taller and taller 3. the highest 4. higher and higher

50. … you climb, … you fall.

1. more higher, more further 2. the higher, the further
3. the more higher, the more further 4. as higher, as further

Test 3. Prepositions

1. The film starts … eight o'clock.

1. on 2. in 3. at 4. into

2. The house was broken into … midnight.

1. at 2. on 3. in 4. between

3. She likes lying … the beach.

1. on 2. in 3. at 4. under

4. We arrived … the United States … Wednesday.

1. in, on 2. in, in 3. to, at 4. at, on

5. Our house is … the end of the road.

1. in 2. on 3. at 4. over

6. … Christmas we usually visit our grandparents.

1. at 2. on 3. in 4. during

7. I'll be back … a couple of minutes.

1. after 2. at 3. in 4. on

8. All classmates decided to meet … Brenda's.

1. in 2. at 3. with 4. on

9. … Tuesday morning I'm going … town.

1. at, to 2. in, in 3. on, to 4. for, into

10. She was standing … a queue … the bus stop.

1. in, on 2. on, in 3. at, at 4. in, at

11. Linda thought about it for some time and, … the end, she decided to go … America.

1. in, to 2. at, in 3. on, for 4. after, to

12. Mr. Green lived … the outskirts, so we had to get there … train.

1. in, by 2. on, by 3. at, on 4. into, in

13. The train arrived right … time.

1. in 2. on 3. at 4. during

14. Hurry up and we'll be there … time … lunch.

1. in, for 2. on, for 3. at, to 4. for, at

15. Let's go … an excursion to the Hermitage.

1. to 2. on 3. for 4. in

16. Lilly was born … September 9, 1966.

1. in 2. at 3. on 4. –

17. They threw eggs … the speaker.

1. in 2. at 3. to 4. towards

18. She threw the pencil … me.

1. in 2. at 3. to 4. towards

19. Welcome … Belarus, the country of blue lakes and thick forests!

1. in 2. to 3. into 4. –

20. I've been … Italy several times.

1. at 2. in 3. to 4. into

21. Sam has been … China for five days now.

1. at 2. in 3. to 4. into

22. I've never heard … this man before.

1. from 2. about 3. of 4. –

23. Did you hear … the fire in the supermarket?

1. from 2. about 3. of 4. –

24. Have you heard anything … Tommy lately?

1. from 2. about 3. of 4. –

25. It's quicker to go … foot than to go … car there.

1. by, on 2. on, by 3. by, in 4. on, in

26. Excuse me, I have to get … at the next station.

1. in 2. from 3. off 4. out of

27. Two men with guns got … the car and went into the shop.

1. on 2. off 3. out of 4. from

28. When I came home I saw that my little brother had cut his finger … a sharp knife.

1. by 2. with 3. on 4. of

29. You cannot start a car … kicking it.

1. by 2. with 3. on 4. –

30. "The Prince and the Pauper" is a novel … Mark Twain.

1. after 2. by 3. of 4. from

31. "Where is Bob?" "He is speaking … the phone."

1. by 2. on 3. with 4. over

32. I wish you'd stop shouting … children.

1. for 2. in 3. to 4. at

33. I didn't hear what they shouted … me.

1. for 2. at 3. to 4. in

34. You can pay either … cash or … credit card.

1. by, by 2. in, on 3. with, on 4. in, by

35. Kate is very good … English. But she is bad … Math.

1. in, at 2. at, at 3. of, at 4. with, at

36. Linda isn't interested … music.

1. in 2. at 3. of 4. –

37. Are you afraid … snakes?

1. of 2. with 3. – 4. for

38. It is very kind … Tom to carry my heavy suitcase.

1. with 2. about 3. of 4. at

39. I feel really sorry … her because she has fallen ill.

1. about 2. with 3. of 4. for

40. He hid the file … so that nobody would find it.

1. about 2. with 3. of 4. for

41. Everything is … control. There is no need to panic

1. on 2. under 3. by 4. in

42. The plate fell on the floor and smashed … pieces.

1. into 2. for 3. on 4. from

43. The house is … fire! Call the fire brigade!

1. in 2. with 3. on 4. at

44. Don't buy those shoes now – wait till they are … sale.

1. for 2. on 3. under 4. to

45. This salad tastes … fish.

1. as 2. by 3. for 4. of

46. I can name all the capitals of the European countries … memory.

1. by 2. of 3. from 4. out

47. The waste paper bin is full … crumpled sheets of paper.

1. with 2. for 3. to 4. of

48. Who is responsible … making such a mess?

1. for 2. of 3. with 4. at

49. Ann was very proud … his achievements.

1. for 2. of 3. with 4. at

50. It took me some time to get accustomed … driving on the left.

1. at 2. with 3. to 4. for

5. ВОСПИТАТЕЛЬНО-ИДЕОЛОГИЧЕСКАЯ ФУНКЦИЯ УЧЕБНО-МЕТОДИЧЕСКОГО КОМПЛЕКСА

Электронный учебно-методический комплекс по дисциплине «Иностранный язык (английский)» для специальности 1-36 21 01 «Дизайн производственного оборудования» составлен в соответствии с основными положениями Кодекса Республики Беларусь об образовании: от 13 января 2011 г., № 243–3, Республиканской программы Иностранные языки от 29.01.1998 г. № 129, Концепции обучения иностранным языкам в системе непрерывного образования Республики Беларусь, а также с основными направлениями государственной политики, отраженными в Концепции непрерывного воспитания учащейся молодежи в Республике Беларусь, в плане идеологической и воспитательной работы БНТУ и других государственных программах, нормативно-правовых и инструктивно-методических документах, определяющих приоритетные направления идеологии белорусского государства.

Данный комплекс способствует созданию условий для формирования нравственно зрелой, интеллектуально развитой личности обучающегося, которой присущи социальная активность, гражданская ответственность и патриотизм, приверженность к университетским ценностям и традициям, стремление к профессиональному самосовершенствованию, активному участию в экономической и социально-культурной жизни страны.

Основными **задачами** идеологической и воспитательной составляющей учебно-методического комплекса по дисциплине «Иностранный язык (английский)» для специальности 1-36 21 01 «Дизайн производственного оборудования» выступают:

1. Формировать у обучающихся способность и готовность понимать ментальность носителей изучаемого языка, а также особенности коммуникативного поведения народов стран изучаемого языка.
2. Воспитывать у обучающихся уважение к родной культуре и к культуре страны изучаемого языка, чувства патриотизма и толерантности.
3. Использовать широкие возможности иностранного языка для развития у студентов коммуникативных умений, опыта решения задач, формирования их гражданской позиции, принятия нравственных ценностей и культурно-исторических традиций белорусского народа, гражданско-патриотического и духовно-нравственного воспитания, уважения к культурному наследию.
4. Формировать и развивать у обучающихся ценностные ориентации, нормы и правила поведения на основе государственной идеологии, идей гуманизма, добра и справедливости.

6. Приложения

Приложение 1 Differences between American English and British English

1. American and British English are both variants of World English. Speakers of American English and speakers of British English have no trouble understanding each other. But there are some differences. The differences are small and do not interfere with communication. The table below shows some differences in the usage of common vocabulary.

British variant (BrE)	American variant (AmE)	Meaning
1	2	3
1st floor	2nd floor	второй этаж
2nd floor	3rd floor	третий этаж
advocate	trial lawyer	адвокат
autumn	fall	осень
bin	trash can	мусорное ведро
biscuit	cookie	сухое печенье
bonnet	hood (car)	капот
booking office	ticket office	билетная касса
boot	trunk (car)	багажник
car park	parking lot	автостоянка
caravan	motor home	фургон, автоприцеп
chemist	pharmacist	фармацевт
chemist's	drugstore	аптека
chips	fries	жареный картофель, чипсы
cinema	movie theater	кино
city/town centure	downtown	центр города
coach	long-distance bus	междугородний автобус
crisps	potato chips	хрустящий картофель
cross-road	intersection	перекресток
drawing room	living room	гостиная
dummy	pacifier	соска
flat	apartment	квартира
flyover	overpass	эстакада
football	soccer	футбол
full stop	period	точка
ground floor	1st floor	первый этаж
hire	rent	нанимать
holiday	vacation	отпуск
immediately	right away	немедленно
jam	jelly	джем

jelly	jello	желе
1	2	3
jumper	sweater	джемпер
label	tag	этикетка
lift	elevator	лифт
loo or WC	bathroom	туалет
lorry	truck	грузовик
luggage	baggage	багаж
maize	corn	кукуруза
milliard	billion	миллиард
mince	chopped beef	фарш
motorway	highway	шоссе
nappy	diaper	подгузник
nought	nothing	ноль
number plate	license plate	номерной знак
paraffin	kerosene	керосин
pavement	sidewalk	тротуар, мостовая
petrol	gas	бензин
plaster	band-aid	пластырь
post	mail	почта
postal code	zip code	индекс
pram	baby carriage	детская коляска
queue	line	очередь
railway	railroad	железная дорога
row	argument	аргумент, спор,
rubber	eraser	ластик
serviette	napkin	салфетка
shopassistant	salesman, clerk	продавец
silencer	muffler	глушитель
sleeper	pullman	спальный вагон
solicitor	lawyer	поверенный
taxi	cab	такси
time-table	schedule	расписание
tin	can	консервная банка
to be ill	to be sick	быть больным
torch	flashlight	факел, фонарик
trousers	pants	брюки
underground	subway	метро
waistcoat	vest	жилет
windscreen	windshield (car)	ветровое стекло

Приложение 2 Фразы для передачи краткого содержания текста

The author starts by telling the reader that	Автор начинает, рассказывая читателю, что
At the beginning of the story the author … describes depicts touches upon explains introduces mentions recalls makes a few critical remarks on	В начале истории автор … описывает изображает затрагивает объясняет знакомит упоминает вспоминает делает несколько критических замечаний о
The story / article *begins (opens) with a (the)*	История / *Статья* начинается с
description of the (general) statement that introduction of the mention of the analysis of a summary of characterization of the (author's) opinion of the author's recollections of the enumeration of	описанием с (общего) утверждения о том, что … представлением упоминанием кратким анализом характеристикой мнением автора воспоминанием автора перечнем
The scene is laid in …	Действие происходит в …
The opening scene shows (reveals)	Первая сцена показывает (раскрывает) …
We first see (meet) … (the name of a character) as …	Впервые мы встречаемся с (имя главного героя или героев)
In conclusion the author	*В заключение автор*
dwells on	останавливается на
points out	указывает на то
generalizes	обобщает
reveals	показывает
exposes	показывает, выявляет, экспонирует
accuses/blames	обвиняет
mocks at	высмеивает, осмеивает, издевается, насмехается
gives an overview of …	дает обзор

Приложение 3 Keys

Keys to p. 124 ex. IV:

1 – e, 2 – f, 3 – i, 4 – a, 5 – b, 6 – k, 7 – j, 8 – g, 9 – d, 10 – c.

Keys to p. 125 ex. V:

1 **–** add interest, 2 – symbolic meanings, 3 – direct the eye, 4 – rounded elements, 5 – customer base, 6 – sports industry, 7 – negative space, 8 – Experimentation and altering.

Keys to p. 148 ex. II:

It's **rubber**. It's **leather**. It's **metal.** It's **wool.** It's **cotton.** It's **silk.**

Приложение 4 Working with numbers

THE ENGLISH NUMERAL

Numerals are subdivided into two groups: **cardinal** (*количественные числительные*) and **ordinal** (*порядковые числительные*).

CARDIALS	ORDINALS	
1 – one	the first	первый
2 – two	the second	второй
3 – three	the third	третий
4 – four	the fourth	четвертый
5 – five	the fifth	пятый
6 – six	the sixth	шестой
7 – seven	the seventh	седьмой
8 – eight	the eighth	восьмой
9 – nine	the ninth	девятый
10 – ten	the tenth	десятый
11 – eleven	the eleventh	одиннадцатый
12 – twelve	the twelfth	двенадцатый
13 – thirteen	the thirteenth	тринадцатый
14 – fourteen	the fourteenth	четырнадцатый
15 – fifteen	the fifteenth	пятнадцатый
16 – sixteen	the sixteenth	шестнадцатый
17 – seventeen	the seventeenth	семнадцатый
18 – eighteen	the eighteenth	восемнадцатый
19 – nineteen	the nineteenth	девятнадцатый
20 – twenty	the twentieth	двадцатый
30 – thirty	the thirtieth	тридцатый
40 – forty	the fortieth	сороковой
50 – fifty	the fiftieth	пятидесятый
60 – sixty	the sixtieth	шестидесятый
70 – seventy	the seventieth	семидесятый
80 – eighty	the eightieth	восьмидесятый
90 – ninety	the ninetieth	девяностый
100 – one hundred	a hundredth	сотый

Exercise 1. Translate the parts of the sentences into English.

1. He was born in the (*пятидесятых*).

2. Nancy was (*третьим*) child in the family.

3. There are (*двадцать восемь*) students in our group.

4. Tom found the necessary information on (*семьдесят второй*) page.

5. Yesterday we celebrated (*девяностый*) anniversary of our Granny.

6. Mr. Forest has (*сорок четыре*) cows.

HOW DO THEY SAY IT

SYMBOL	INTERPRETATION	EXAMPLE
=	**equals / is**	4+3=7 four plus three **equals** / **is** seven
+	**plus**	
-	**minus**	8-2=6, eight **minus** two is six
%	**percent**	20 % twenty **percent**
×	**times**	2×5=10, two **times** five is ten
:	**divided**	12:3=4, twelve **divided** by three is four
0,5	**five tenth**	0,9 zero point nine, nine tenth
0,05	**five hundredth**	0,8 eight **hundredth**
0,005	**five thousandth**	0,007 seven **thousandth**
10^2	**ten squared**	10^2+5, ten **squared** plus five
10^3	**ten cubed**	10^3–4, ten **cubed** minus four
10^4	**ten to the fourth power**	9^6 nine **to the sixth power**
6,3	**six point three**	12,2 twelve point two
7 ⅔	**seven and two thirds**	8 $^3/_5$ eight and three fifths

Exercise 2. Complete the chart.

Symbol	How it is said
0,009	……..
……..	ten to the fifth power
32 %	……
0,6	…….
3^5	……
…….	eleven squared
14^9	…….

Exercise 3. Write the word that is closest in meaning to the underlined part.

1. The sample weighs **0,8** of a gram.

e_ g _ _ t_ _ t _ _

2. The answer is $1{,}12\times\mathbf{10^{6}}$.

t _ _ t _ _ _ _ s _ _ _ _ p _ _ er

3. The amount is off by just **0,004**.

f _ _ r t _ _ u _ _ n _ _ _ s

4. The design must be accurate to **0,01** of an inch.

o _ _ _ u _ _ r _ _ t _