Министерство науки и высшего образования Российской Федерации
Федеральное государственное бюджетное образовательное учреждение высшего образования
«Кабардино-Балкарский государственный университет им. Х.М. Бербекова»
(КБГУ)

СОЦИАЛЬНО-ГУМАНИТАРНЫЙ ИНСТИТУТ
Кафедра иностранных языков

УТВЕРЖДАЮ

Руководитель ОПОП

Р.Ш. Тешев
«12» февраля 2026 г.

ФОНД ОЦЕНОЧНЫХ СРЕДСТВ ПО ДИСЦИПЛИНЕ (МОДУЛЮ)/ПРАКТИКЕ ФТД.В.01 «ИНОСТРАННЫЙ (АНГЛИЙСКИЙ) ЯЗЫК В ПРОФЕССИОНАЛЬНОЙ СФЕРЕ»

Специальность

11.05.01 Радиоэлектронные системы и комплексы

Специализация

Радиоэлектронные системы передачи информации

Квалификация (степень) выпускника

Инженер

Форма обучения:

Очная

Нальчик 2025

1. Перечень компетенций с указанием этапов их формирования в процессе освоения образовательной программы, описание показателей, критериев оценивания компетенций на различных этапах их формирования.

1.1. *Этапы формирования компетенций и средства оценивания*

Код и формулировка компетенции	**Индикаторы достижения**	**Планируемые результаты обучения по дисциплине (ЗУН)**
УК-4 Способен осуществлять деловую коммуникацию в устной и письменной формах на государственном языке Российской Федерации и на иностранном(ых) языке(ах).	УК-.4.1 Способен воспринимать и создавать устную и письменную речь в сфере деловой коммуникации на государственном языке Российской Федерации	**Знать:** - базовые правила грамматики (на уровне морфологии и синтаксиса); - базовые нормы употребления профессиональной лексики и фонетики; - требования к речевому и языковому оформлению устных и письменных высказываний с учетом специфики иноязычной культуры; - основные способы работы над языковым и речевым материалом; - основные ресурсы, с помощью которых можно эффективно восполнить имеющиеся пробелы в языковом образовании (типы словарей, справочников, компьютерных программ, информационных сайтов сети Интернет, текстовых редакторов и т.д.).
	УК-.4.2 Способен понимать основные идеи четких сообщений, сделанных на литературном языке на разные темы; умение вести диалог на иностранном языке с учетом социокультурных особенностей; умение составить связное устное и письменное сообщение на известные или особо интересующие темы	**Уметь:** **в области аудирования:** воспринимать на слух и понимать основное содержание несложных аутентичных текстов по специальности, а также выделять в них значимую/запрашиваемую информацию; - **в области чтения**: понимать основное содержание несложных аутентичных текстов по специальности; выделять значимую/запрашиваемую информацию из прагматических текстов справочно-информационного характера; - **в области письма:** заполнять формуляры и бланки прагматического характера; вести запись основных мыслей и фактов (из аудиотекстов и текстов для чтения), а также запись тезисов устного выступления/письменного доклада по изучаемой проблематике; поддерживать контакты при помощи электронной почты; оформлять CurriculumVitae/Resume и сопроводительное письмо, необходимые при

		приеме на работу, выполнять письменные проектные задания (письменное оформление презентаций). **в области говорения:** начинать, вести/поддерживать и заканчивать диалог-расспрос об увиденном, прочитанном, диалог-обмен мнениями и диалог-интервью/ собеседование при приеме на работу, соблюдая нормы речевого этикета, при необходимости используя стратегии восстановления сбоя в процессе коммуникации (переспрос, перефразирование и др.); расспрашивать собеседника, задавать вопросы и отвечать на них, высказывать свое мнение, просьбу, отвечать на предложение собеседника (принятие предложения или отказ); делать сообщения и выстраивать монолог-описание, монолог-повествование и монолог-рассуждение.
	УК-.4.3 Способен воспринимать, анализировать и критически оценивать устную и письменную деловую информацию на родном языке	**Владеть:** - навыками выражения своих мыслей и мнения в межличностном и профессиональном общении на иностранном языке; - навыками извлечения необходимой информации из оригинального текста по специальности на иностранном языке; - стратегиями восприятия, анализа, создания устных и письменных текстов разных типов и жанров; - приемами самостоятельной работы с языковым материалом (лексикой, грамматикой, фонетикой) с использованием справочной и учебной литературы)

2 Шкала оценивания планируемых результатов обучения

2.1 Текущий контроль

Оценка результатов текущей успеваемости в рамках контрольных точек осуществляется посредством 70-балльной системы, при этом за добросовестное посещение занятий обучающийся может набрать до 10 баллов, за качественное прохождение оценочных мероприятий - до 60 баллов.

Карта распределения рейтинговых баллов в рамках текущего контроля

Таблица 2

№	Оценочное средство	Форма проведения	Порядок проведения	Максимальное количество баллов	Критерии оценивания
1.	Устный опрос: Science and society	Устная	Индивиду-ально	3	3 – ответы полные, точные, демонстрируют глубокое понимание темы, аргументация логична; 2 – ответы в основном правильные, но содержат незначительные ошибки или недостаточно полные; 1 – ответы частичные, содержат ошибки или требуют наводящих вопросов; 0 – ответы отсутствуют или полностью неверные.
2.	Реферат + защита: Профессиональная деятельность специалиста	Пис.раб. + Устная	Индивиду-ально	9	9-8 – обозначена проблема и обоснована её актуальность, сделан краткий анализ различных точек зрения на рассматриваемую проблему и логично изложена собственная позиция, сформулированы выводы, тема раскрыта полностью, выдержан объем, соблюдены требования к внешнему оформлению, даны правильные ответы на дополнительные вопросы. Обучающийся проявил инициативу, творческий подход, способность к выполнению сложных заданий, организационные способности. Отмечается способность к публичной

					коммуникации. документация представлена в срок. Полностью оформлена в соответствии с требованиями; 7-6 – выполнены основные требования к реферату и его защите выполнены, но при этом допущены недочёты. В частности, имеются неточности в изложении материала; отсутствует логическая последовательность в суждениях; не выдержан объём реферата; имеются упущения в оформлении; на дополнительные вопросы при защите даны неполные ответы. Обучающийся достаточно полно, но без инициативы и творческих находок выполнил возложенные на него задачи. Документация представлена достаточно полно и в срок, но с некоторыми недоработками; 5-4 – имеются существенные отступления от требований к реферированию. В частности, тема освещена лишь частично; допущены фактические ошибки в содержании реферата или при ответе на дополнительные вопросы; во время защиты отсутствует вывод. Обучающийся выполнил большую часть возложенной на него работы. Допущены существенные

					отступления. Документация сдана со значительным опозданием (более недели). Отсутствуют отдельные фрагменты; 2-1 – тема реферата не раскрыта, обнаруживается существенное непонимание проблемы. Обучающийся не выполнил свои задачи или выполнил лишь отдельные несущественные поручения 0 – Документация не сдана
3.	Письменная работа: Engineering as a branch of science	Письменная	Индивиду-ально	4	4-3 – ответы полные, точные, демонстрируют глубокое понимание темы, аргументация логична; 2 – ответы в основном правильные, но содержат незначительные ошибки или недостаточно полные; 1 – ответы частичные, содержат ошибки или требуют наводящих вопросов; 0 – ответы отсутствуют или полностью неверные.
4.	Устный опрос: Modern achievements in electronics and engineering	Устная	Индивидуальн о	3	3 – ответы полные, точные, демонстрируют глубокое понимание темы, аргументация логична; 2 – ответы в основном правильные, но содержат незначительные ошибки или недостаточно полные; 1 – ответы частичные, содержат ошибки или требуют наводящих вопросов; 0 – ответы отсутствуют или полностью неверные.

5.	Эссе: Эрнест Резерфорд	Письменная	Индивиду-ально	4	4-3 – эссе глубоко проработано, подкреплено примерами и источниками, логично структурировано, без ошибок; 2 – эссе качественное, но содержит незначительные недочеты или слабую аргументацию; 1 – эссе поверхностное, содержит фактические ошибки; 0 – эссе минимальное, аргументация отсутствует; эссе не представлено.
6.	Анализ статей: Advances ininte grated circuits	Письменная	Индивиду-ально	4	4-3 – работа выполнена полно, корректно и демонстрирует хорошее понимание материала; 2 – работа выполнена с некоторыми неточностями или неполнотой, но в целом демонстрирует понимание материала; 1 – работа выполнена не в полном объеме, содержит серьезные ошибки и/или не демонстрирует понимания материала; 0 – работа не выполнена, не представлены описания статей и/или заполненные шаблоны, шаблоны заполнены неверно или с большим количеством пропусков
7.	Устный опрос: Экологические проблемы Земли, Энергия	Устная	Индивиду-ально	3	3 – ответы полные, точные, демонстрируют глубокое понимание темы, аргументация логична; 2 – ответы в основном правильные, но содержат незначительные ошибки или недостаточно полные; 1 – ответы частичные, содержат ошибки или требуют наводящих

					вопросов; 0 – ответы отсутствуют или полностью неверные.
8.	Устный опрос: Ethical problems of scientific research	Устная	Индивиду-ально	3	4-33 – ответы полные, точные, демонстрируют глубокое понимание темы, аргументация логична; 2 – ответы в основном правильные, но содержат незначительные ошибки или недостаточно полные; 1 – ответы частичные, содержат ошибки или требуют наводящих вопросов; 0 – ответы отсутствуют или полностью неверные.
9.	Тест: Простое прошедшее и прошедшее длительное время (Past Simple and Past Continuous)	Тестирование (ПК)	Индивиду-ально	6	6-5 – получают обучающиеся с правильным количеством ответов на тестовые вопросы. Выполнено 100 % предложенных тестовых вопросов; 4-3 – получают обучающиеся с правильным количеством ответов на тестовые вопросы – 80 –99 % от общего объема заданных тестовых вопросов; 2 - получают обучающиеся с правильным количеством ответов на тестовые вопросы – 60 – 79% от общего объема заданных тестовых вопросов; 1 – получают обучающиеся правильным количеством ответов на тестовые вопросы – менее 40-59 % от общего объема заданных тестовых вопросов 0 – ответы отсутствуют

					или полностью неверные.
10.	Устный опрос: My first steps in science	Устная	Индивиду-ально	3	3 – ответы полные, точные, демонстрируют глубокое понимание темы, аргументация логична; 2 – ответы в основном правильные, но содержат незначительные ошибки или недостаточно полные; 1 – ответы частичные, содержат ошибки или требуют наводящих вопросов; 0 – ответы отсутствуют или полностью неверные.
11.	Практическая работа: My first steps in science	Письменная	Индивиду-ально	4	4-3 – анализ полный, примеры релевантны, обоснование корректно; 2 – анализ содержит незначительные ошибки или недостаточно глубок; 1 – анализ поверхностный, примеры некорректны; 0 – анализ не выполнен.
12.	Устный опрос: Современная инженерия	Устная	Индивиду-ально	3	3 – ответы полные, точные, демонстрируют глубокое понимание темы, аргументация логична; 2 – ответы в основном правильные, но содержат незначительные ошибки или недостаточно полные; 1 – ответы частичные, содержат ошибки или требуют наводящих вопросов; 0 – ответы отсутствуют или полностью неверные.
13.	Анализ статей: Processor (CPU)	Письменная	Индивид Индивиду-ально уально	5	5-4 – работа выполнена полно, корректно и демонстрирует хорошее понимание материала; 3-2 – работа выполнена с некоторыми неточностями или неполнотой, но в

					целом демонстрирует понимание материала; 1 – работа выполнена не в полном объеме, содержит серьезные ошибки и/или не демонстрирует понимания материала; 0 – работа не выполнена, не представлены описания статей и/или заполненные шаблоны, шаблоны заполнены неверно или с большим количеством пропусков
14.	Тест 1: Комплексная проверка знаний по всем темам курса (включая распознавание стилей, средств, терминологию)	Тестирование (ПК)	Индивиду-ально	6	6-5 – получают обучающиеся с правильным количеством ответов на тестовые вопросы. Выполнено 100 % предложенных тестовых вопросов; 4-3 – получают обучающиеся с правильным количеством ответов на тестовые вопросы – 80 –99 % от общего объема заданных тестовых вопросов; 2 - получают обучающиеся с правильным количеством ответов на тестовые вопросы – 60 – 79% от общего объема заданных тестовых вопросов; 1 – получают обучающиеся правильным количеством ответов на тестовые вопросы – менее 40-59 % от общего объема заданных тестовых вопросов 0 – ответы отсутствуют или полностью неверные.
			всего	60	

2.2 Промежуточная аттестация

Карта распределения баллов в рамках промежуточной аттестации

Таблица 3

Карта распределения баллов в рамках промежуточной аттестации во 2 семестре

№	Оценочное средство	Форма проведения	Порядок проведения	Максимальное количество баллов	Критерии оценивания
1	*Зачетный билет*	*Письменная*	Билет содержит 2 теоретических вопроса. На теоретические вопросы студент должен ответить устно.	Теоретический вопрос – 30 баллов.	**Критерии оценивания теоретического вопроса:** до 30 баллов: Глубокий уровень владения материалом, точное знание ключевых концепций, способность анализировать и интерпретировать факты, грамотно строить высказывания, привести примеры, свободно оперировать терминологией. 18 до 24 баллов: Базовое владение предметом, умение последовательно раскрыть основную мысль вопроса, грамотное применение терминов, наличие существенных элементов анализа и обобщений, но недостаточное развертывание или отдельные неточности. 10 до 17 баллов: Частичное освоение материала, попытка объяснить основной смысл вопроса, использование некоторых базовых терминов, но отсутствие глубокого понимания сложных моментов, логические недостатки изложения, отсутствие выводов. 2 до 9 баллов: Ошибочные представления, слабо выраженное владение основными понятиями, значительные затруднения в интерпретации вопросов, существенные фактологические ошибки, отсутствие обоснованных выводов и примеров.

					0 до 1 балла: Полное непонимание темы, неспособность сформулировать адекватный ответ, грубые ошибки, несоответствие требованиям задания.

3. Оценочные материалы для текущего и промежуточного контроля успеваемости
3.1. Оценочные материалы для текущего контроля
Примерные задачи по дисциплине:

Типовые задания для практических занятий

Exercise 1. Find the pronunciation of the following words in the dictionary and translate them into Russian
empire, history, globe, colony, economic, political, cultural, industry, diplomacy, revolution, official, organization, status, business, aviation, population, climate, territory, million, energy, monarch, geography, nation, republic, tourism, ecology.

Exercise 2. Active vocabulary. Learn the following words:

1. the leading international language	a) по всему миру
2. the main cause	b) так же, как
3. throughout the world	c) наводнить рынок
4. world history	d) главный международный язык
5. to flood the market	e) к тому же
6. as well as	f) в некоторой степени
7. in addition	g) главная причина
8. to some degree	h) множество
9. a lot of	i) мировая история

Exercise 3. Translate the following word combinations into Russian before reading the text:
federal republic, a special federal area, new graduates, the capital, unemployment rate, highly mechanized

Exercise 4. Read and translate the following text into Russian:

The Concept of Role Theory

Any individual in any situation occupies a role in relation to other people. The particular individual with whom one is concerned in the analysis of any situation is usually given the name of focal person. He has the focal role and can be regarded as sitting in the middle of a group of people, with whom he interacts in some way in that situation. This group of people is called his role set. The role set should include all those with whom the individual has more than trivial interactions.

Role definition. The definition of any individual's role in any situation will be a combination of the role expectations that the members of the role set have of the focal role. These expectations are often occupationally denned, sometimes even legally so. The role definitions of lawyers and doctors are fairly clearly defined both in legal and in cultural terms. The role definitions of, say, a film star or bank manager, are also fairly clearly defined in cultural terms, too clearly perhaps. Individuals often find it hard to escape from the role that cultural

traditions have defined for them. Not only with doctors or lawyers is the required role behavior so constrained that if you are in that role for long it eventually becomes part of you, part of your personality. Hence, there is some likelihood that all accountants will be alike or that all blondes are similar - they are forced that way by the expectations of their role. It is often important that you make it clear what your particular role is at a given time. The means of doing this are called, rather obviously, role signs. The simplest of role signs is a uniform. The number of stripes on your arm or pips on your shoulder is a very precise role definition which allows you to do certain very prescribed things in certain situations. Imagine yourself questioning a stranger on a dark street at midnight without wearing the role signs of a policeman! In social circumstances, dress has often been used as a role sign to indicate the nature and degree of formality of any gathering and occasionally the social status of people present. The current trend towards blurring these role signs in dress is probably democratic, but it also makes some people very insecure. Without role signs, who is to know who has what role?

Place is another role sign. Managers often behave very differently outside the office and in it, even to the same person. They use a change of location to indicate a change in role from, say, boss to friend. Indeed, if you wish to change your roles you must find some outward sign that you are doing so or you won't be permitted to change - the subordinate will continue to hear you as his boss no matter how hard you try to be his friend. In very significant cases of role change, e.g. from a soldier in the ranks to officer, from bachelor to married man, the change of role has to have a very obvious sign, hence rituals. It is interesting to observe, for instance, some decline in the emphasis given to marriage rituals. This could be taken as an indication that there is no longer such a big change in role from single to married person, and therefore no need for a public change in sign. In organizations, office signs and furniture are often used as role signs. These and other perquisites of status are often frowned upon, but they may serve a purpose as a kind of uniform in a democratic society; roles without signs often lead to confused or differing expectations of the role of the focal person.

Role ambiguity. Role ambiguity results when there is some uncertainty in the minds, either of the focal person or of the members of his role set, as to precisely what his role is at any given time. One of the crucial expectations that shape the role definition is that of the individual, the focal person himself. If his occupation of the role is unclear, or if it differs from that of the others in the role set, there will be a degree of role ambiguity. Is this bad? Not necessarily, for the ability to shape one's own role is one of the freedoms that many people desire, but the ambiguity may lead to role stress which will be discussed later on. The virtue of job descriptions is that they lessen this role ambiguity. Unfortunately, job descriptions are seldom complete role definitions, except at the lower end of the scale. At middle and higher management levels, they are often a list of formal jobs and duties that say little about the more subtle and informal expectations of the role. The result is, therefore, to give the individual an uncomfortable feeling that there are things left unsaid, i.e. to heighten the sense of role ambiguity.

Looking at role ambiguity from the other side, from the point of view of the members of the role set, lack of clarity in the role of the focal person can cause insecurity, lack of confidence, irritation and even anger among members of his role set. One list of the roles of a manager identified the following: executive, planner, policy maker, expert, controller of rewards and punishments, counselor, friend, teacher. If it is not clear, through role signs of one sort or another, which role is currently the operational one, the other party may not react in the appropriate way — we may, in fact, hear quite another message if the focal person speaks to us, for example, as a teacher and we hear her as an executive

VOCABULARY EXERCISES

Exercise 5. Give the English equivalents to the following words and word combinations:
Граничить, нанимать на работу, отделиться от сфера туризма, в год, чудеса природы, со всего мира, исторические достопримечательности, конкурировать, казино

Exercise 6. Find the corresponding English word for the Russian word.
Найдите русскому слову соответствующее английское.
конструктор — design, designer, to design
стабилизировать — stabilizer, stability, stabilize
самый последний — latest, late, later
эффективный — efficient, efficiency, efficiently
характеристика, работа — perform, performing, performance
надежно — reliable, reliability, reliably
немыслимый — thinking, thinkable, unthinkable
невесомость — weightlessness, weightless, weight

Exercise 7. Translate the selected words and phrases, remember them.
1. At higher schools specialization **generally** begins in the third year.
2. Nowadays we **generally** have computers at every plant.
3. This doesn't improve the speed of transport vehicles **in general** and that of an automobile **in particular.**
4. The **general** principles of the design of new transport machines **in general** and diesel locomotives **in particular** can be found in the new magazine.
5. The fifth-generation computers performing 100 billion operations a second will become available in the near future.
6. Because of the extreme temperatures **generated** by atmospheric friction a craft will require protection.
7.The **generation** of electric power increases every year.

GRAMMAR EXERCISES

Exercise 8. Fill in the blanks with appropriate verb forms ***was*** **/** ***were*** **или** ***wasn't*** **/** ***weren't.***
1. English … a language of the Anglo-Saxons.
2. In the past England … rich in mineral resources.
3. Where … you at 10 o'clock last Saturday morning?
4. This time last month I … at home.
5. The Roman Empire … a very powerful state of the past.
6. They … very tired yesterday.
7. … they in England or Scotland two years ago?
8. Mr Smith … not in his office yesterday.
9. The world's first skyscraper … in Chicago.
10. Wales and Scotland … independent until the 13th century.
Exercise 9. Translate into Russian paying attention to the Participles:
1. Specialists reported that a miniature video camera provided the latest submersible with vision.
2. The speed of a satellite would be less provided it moved at a greater distance from the Earth.
3. Drivers don't know yet whether radars will be mounted on the next car models.
4. If the weather is too bad for flying, passenger airplanes don't leave aiфorts.
5. It was very important to find out if electricity could be used for long distance communication.

6. During the entire flight, the pilot is provided with all the necessary information about weather conditions.
7. Modern submersibles can remain at the depth of 20,000 feet for eight hours or, if needed, as long as two or three days.
8. A new system for motor cars can be provided with infrared sensors that can detect a human figure at night.
9. If underwater tourism continued to develop at the present rate, the number of passengers could grow up to millions in only a few years.

SPEECH EXERCISES

Exercise 10. Answer the questions.
1. What apparatuses are used for exploring the ocean depths at present? (non-military submersibles) 2. What countries are developing such submersibles? (Russia, the USA, France and Japan)
3. What kind of submersible is being designed? (an advanced manned submersible)
4. What is the depth it is capable to submerge to? (21,000 feet)
5. What motor is used in it? (a battery-operated electric motor)
6. What devices are provided for collecting samples from the ocean floor? (robotic manipulators)
7. What is the practical application of the submersible? (cultivating sea plants, fish and pearls)

Exercise 11. Find in the text the right word to complete the sentences.
1. English … an international language now, but many centuries ago it … unpopular.
2. Last year I … 17, this year I … 18 years old.
3. Now my friend … a student, but last year he … a pupil.
4. I … away on business now, but ten days ago I … in my native town.
5. Last time you … right, but this time I … afraid you … wrong.
6. He … in France last year, but this year he … in his native village.
7. Yesterday the day … fine, now it … windy.
8. When I … a child, I … fond of dogs.
9. We … tired after the journey and we … very hungry.
10. You … not at home yesterday. Where … you?

Перечень заданий для самостоятельной работы

ЗАДАНИЕ 1. Развитие фонетических навыков

1.Практикуйте произношение следующих звуков:

[b], [p], [g], [k], [t], [t], [s], [d], [z], [s], [c], [f], [v], [w], [d], [g], [h], [l], [m], [n], [n], [z], [r].

2. Прочитайте следующие слова:

[b]: be, born, boy, by
[p]: parent, person, put, up
[d]: doctor, do, hard, deep
[g]: go, get, against
[k]: kind, killer, take
[t]: tall, teacher, pet
[θ]: thanks, both, teeth
[s]: study, sister, breakfast
[z]: zink
[*f*]: short, she, brush
[f]: father, French, family
[v]: very, voice, five
[w]: well, with, will
[h]: hospital, hostel, has, he
[l]: lady, long, lot, love
[m]: medicine, my, moment, must
[n]: name, morning, Anatomy
[r]: read, relative, parent

3. Практикуйте произношение следующих слов:
Radioactivity, measurement, interaction, society, nervous, elimination, basic, proportion, seriously, symbolic, anxious, ecological.

ЗАДАНИЕ 2. Развитие лексических навыков
4. Прочитайте и переведите следующие предложения:
1. Наш анализ неполный по нескольким причинам. Другим доводом в пользу этого метода является то, что он гораздо более безопасный.
2. Я объяснил выбор темы своего исследования. Совершенно очевидно, что взаимодействие частиц будет очень слабым в этом случае.
3. Эксперимент не удался по причинам, не зависящим от ученых. У нас есть все основания предполагать, что результаты будут интересными.

5. Дайте синонимы к следующим словам из текста:
encode, capacity, disintegrate, emission, widen, intensive, incredible, defence, stranger, reality, strengthen, fulfilment, indestructible, amplification, substance, entirely, vaporize

6. Найдите к словам в колонке А антонимы из колонки В.

A	B
1. long	a. absence
2. forward	b. permanent
3. increase	c rapid
4. heavy	d. short
5. slow	e. lightweight
6. invisible	f. complexity
7. changing	g. rearward
8. with	h. inward
9. simplicity	i. visible
10. rise	j . without
11. presence	k. decrease
12. outward	1. fall

7. Найдите русские эквиваленты для словосочетаний.:
the physics discoveries, discoveries that led to, the scientific advantage, advantage could well come to nation, to bring the mankind to, mercury wire, unexpected phenomenon, to return to normal state, by passing electric current, by applying magnetic field, to make a great contribution, they introduced a model, a model proved to be useful, a theory won for them the Nobel Prize, research in superconductivity, research became especially active, the achieved record of 23 K.
исследования особенно активизировались; исследования в области сверхпроводимости; теория, за которую они получили Нобелевскую премию; привести человечество к ...; преимущество в науке; открытия в области физики; достигнутая рекордная отметка в 23 К; открытия, которые привели к...; преимущество могла бы получить нация (страна); ртутная проволока; вернуться в обычное состояние; пропуская электрический ток; внести большой вклад; неожиданное явление; они предложили (ввели) модель; прикладывая магнитное поле; модель оказалась эффективной.

8. Найдите предложения со сложным подлежащим, переведите.

1. The phenomenon of superconductivity appears to have been discovered as early as 1911.
2. Before 1911 superconductivity was assumed to be impossible.
3. Recent discoveries in superconductivity made scientists look for new conducting materials and for practical applications of the phenomenon.
4. The latest achievements in the field of superconductivity are certain to make a revolution in technology and industry.
5. Recommendations from physicists will allow the necessary measures to be taken to protect the air from pollution.
6. Lasers are sure to do some jobs better and at much lower cost than other devices.
7. M. Faraday supposed a light beam to reverse its polarisation as it passed through a magnetised crystal.
8. Superconductors are likely to find applications we don't even think of at present.
9. A Dutch physicist found a superconducting material to return to normal state when a strong magnetic field was applied.
10. Properties of materials obtained in space prove to be much better than those produced on Earth.

9. Сопоставьте следующие английские словосочетания с русскими:

1. the rest of	a) быстрое развитие
2. federal district	b) постоянный рост
3. steady growth	c) опережать, быть впереди других
4. unemployment rate	d) федеральный округ
5. rapid development	e) равный
6. be ahead in	f) рынок труда
7. equal	g) уровень безработицы
8. job market	h) чувство безопасности и уверенности
9. a sense of safety and confidence	i) остальной

10. **Найдите синонимы и антонимы**

below — above; useful — useless; easy — difficult; field — sphere; to meet demands — to meet requirements (needs); full — complete; to use — to apply; to get — to obtain; moreover — besides; sufficient — enough; likely — unlikely; to continue — to discontinue; conductivity — nonconductivity; to vary — to change; to lead to — to result in; recent — latest; advantage — disadvanta

ЗАДАНИЕ 3. Развитие грамматических навыков

11. Заполните пропуски словами *conduct, superconductivity, superconductor, superconduc*

1.... at high temperatures was almost discovered in 1979.
2. The Russian scientists found an oxide of metal they were experimenting with to ... electric current. Moreover, the lower the temperature, the less resistance the material had.
3. The resistance continued to fall in liquefied nitrogen. To continue the experiments, they needed liquid helium. To obtain it was quite a problem at that time. So the experiments were stopped.
4. But it was this compound of copper, lanthanum and oxygen that proved to be a ... for which the
Swiss physicists were honoured with a Noble Prize in 1987.

5. Later neither efforts nor money were spared (жалеть, экономить) for the study of the ... materials. Moreover, there were no longer any problems with helium.

12. Найдите русскому слову соответствующее английское

достижение — achievable, achievement, achieve;
электронный — electronics, electronic, electron;
легче — easily, easy, easier;
удовлетворять — satisfy, satisfactory, satisfaction;
действительно — reality, realise, really..

13. Переведите следующие предложения на английский язык

The pie chart shows countries of origin of legal migrants to the USA. Take it in turns with a partner to describe the chart. *Model*: 34.6% of immigrants come from Asia. There are 34.6% Asian immigrants in the USA.

ЗАДАНИЕ 4. Развитие навыков аудирования

Фонологическое, лексическое, грамматическое аудирование. Коммуникативное аудирование материалов в зависимости от уровня владения языком:
-понимание общего содержания прослушанной информации
-детальное понимание прослушанного,
-восстановление полного текста в письменном виде при многократном прослушивании
-вычленение и понимание определенной информации, ограниченной коммуникативным заданием
-умение, помимо адекватного восприятия и осмысления сообщения, понимать намерения, установки, переживания, состояния и пр. говорящего.

ЗАДАНИЕ 5. Развитие навыков говорения

14. Прочитайте и переведите текст без словаря.

Exploration experts suggest that the tiny moon Phobos should be used as a perfect place for gas refilling station. Some scientists think Phobos rocks to contain crystalline ice. If one heats them, it will be possible to produce water. The latter could be divided into hydrogen and oxygen which are necessary components for rocket propulsion. Such a fuel supply would greatly reduce the amount of weight that must be delivered from the Earth for manned missions to Mars. Thus, it might be possible for spacecrafts to leave the Earth for Mars carrying no return fuel. To get home, they should simply fill up at Phobos.

15. Ответьте на вопросы

1. What is the ISS? (the most complex and expensive structurespace and research facility orbiting the Earth)
2. What will it look like when completed? (a supersize Lego set, almost as long as a football field)
3. What is its size compared with Russian-built Mir space station? (five times the Mir station size)
4. What modules is it expected to consist of? (36 modules)
5. How many countries are involved in the project? (16 countries)
6. What methodology is being used to build the ISS? (the same methodology as for Mir but on a larger scale)

7. What is the purpose of the ISS? (to promote international cooperation and create peacetime jobs for highly skilled workers and engineers)

16. Прочитайте текст и будьте готовы передать его содержание:

Super Phones

Not long ago it became known that cell phone manufacturers were experimenting with several different designs for the handheld devices that would be linked to the advanced wireless networks of the future. If these machines really are to become digital companions, they will have to be versatile, adaptable and fashionable (модный).

Companies such as Nokia, Ericsson and Motorola are working on the third-generation «super phone» that will look quite different from existing cell phones. In fact, calling them phones seems absurd (неразумный). They will have built-in colour screens several inches square for presentation of high resolution graphics and video. Some may have a keyboard and a miniature mouse for data input, but most of them will use touch-sensitive (сенсорный) screens and styluses (перо, пишущий узел) like those employed now by the handheld computers.

In addition to carrying voice communication, the super phone will also be able to play music files that are circulating on the Web in the most popular MP3 format (or in whatever format may replace it).

ЗАДАНИЕ 6. Развитие навыков коммуникативного чтения

17. Прочитайте текст и ответьте на вопросы

A Review of Contemporary

Science Contemporary science is typically subdivided into the natural sciences, which study the material universe; the social sciences, which study people and societies; and the formal sciences, which study logic and mathematics. The formal sciences are often excluded as they do not depend on empirical observations. Disciplines which use science, like engineering and medicine, may also be considered to be applied sciences. From classical antiquity through the 19th century, science as a type of knowledge was more closely linked to philosophy than it is now, and in the Western world the term natural philosophy once encompassed fields of study that are today associated with science, such as astronomy, medicine, and physics. However, during the Islamic Golden Age foundations for the scientific method were laid by Ibn al-Haytham in his Book of Optics. While the classification of the material world by the ancient Indians and Greeks into air, earth, fire and water was more philosophical, medieval Middle Easterns used practical and experimental observation to classify materials. In the 17th and 18th centuries, scientists increasingly sought to formulate knowledge in terms of physical laws. Over the course of the 19th century, the word science became increasingly associated with the scientific method itself as a disciplined way to study the natural world. It was during this time that scientific disciplines such as biology, chemistry, and physics reached their modern shapes.

That same time period also included the origin of the terms scientist and scientific community, the founding of scientific institutions, and the increasing significance of their interactions with society and other aspects of culture. The societal impacts of scientific and technological advances – whether desirable or undesirable – have been one of the primary foci of contemporary policy research. Economic and sociopolitical implications of science and technology development associated with global climate change and sustainable energy generation, big data and information and communication infrastructure and network, food security and bioengineering, and nano-scale research and applications, to name a few, have been

frequently discussed by scholars, practitioners, the media, and ordinary citizens, and the related government policies have naturally been reflective of such discussion. Advances in scientific understanding and the development of new technologies are considered fundamental to maintain competitive market advantages and continued economic growth and, in this context, are considered beneficial to society.

Broadly speaking, government policies in this realm are concerned about promoting the development, production, and diffusion of innovative science and technology to achieve such ends. The majority of innovation research seeks to model innovation processes, explore the mechanisms of innovation, and identify the conditions that facilitate it. Within the last three years, researchers have increasingly applied a multiscalar lens to understand the diffusion of policies and knowledge assumed necessary to foster innovation. Sub- topics within this area of research also focus on society's evaluation and adoption of new technologies and their overall impacts.

Comprehension Check

1. Why are the formal sciences often excluded from the system of science?
2. Why was science more closely linked to philosophy than it is now?
3. How did science develop in the 17th and 18th centuries?
4. What are the primary foci of contemporary policy research? Do you agree with the author?
5. What are government policies concerned about nowadays?
6. Do you agree with the explanation of contemporary science given in the text?
7. Comment on the expression 'Science is a global human endeavor'.

18.Вставьте пропущенные слова:

1. Air _____ has revolutionized our world.
2. The _____ tube led to the early designs of the radio, television and computer.
3. Let's consider some of its greatest _____ achievements
4. The key to this amazing _____ is the integrated circuit — the heart of the modern electronic systems.
5. We are only beginning to realize the _____ possibilities of its use.
6. The introduction of radio and television were major reasons of _____ in the 20th century.

Vacuum, social change, travel, revolution, engineering, future

20. Прочитайте следующий текст и перескажите его:

A New Era for Aircraft

Aviation experts expect that today's aircraft will begin to be replaced with some new form of supersonic transport in a few years' time. A 21st century hypersonic aircraft may open a new age of aircraft design.

The designers of this country displayed the project of such a supersonic passenger liner among the prospective models at one of the latest Aerospace Salon held on the old Le Bourget airfield in Paris. An elongated fuselage with a sharp nose and without a horizontal stabilizer makes it look more like a rocket. The speed matches the looks. This plane will fly at a speed five to six times above the speed of sound, e.g., it will cover the distance between Tokyo and Moscow in less than two hours. The diameter of the fuselage will be 4 meters and the overall

length 100 meters, with the cabin accomodating 300 passengers. The future superlanes of such a class will have no windows, but the passengers can enjoy watching the panorama of the Earth on the TV monitor at the front of the cabin. They will fly so fast that ordinary aircraft windows would make the structure too weak to withstand the stresses at such a speed. At high velocities the air resistance in the lower atmosphere is so great that the skin is heated to very high temperature. The only way out is to fly higher. Therefore, airliners' routes will mainly lie in the stratosphere.

In general, to build a reliable hypersonic plane one has to overcome a whole set of technological and scientific difficulties. Apart from creating highly economical combined engines and heatinsulating materials, designers have to make such an amount of thermodynamic computations that can't be performed without using supercomputers. One of the ways to make planes as economical as possible is lightening the aircraft by substituting new composite materials for conventional metal alloys. Accounting for less than 5 per cent of the overall aircraft weight now, the percentage of composite material parts will exceed 25 per cent in new generation models. An extensive use of new materials combined with better aerodynamics and engines will allow increasing fuel efficiency by one-third.

Because of the extreme temperatures generated by the atmosphere friction, a hypersonic craft will also require complicated cooling measures. One possibility is using cryogenic fuels, such as liquid hydrogen, as both coolants and propellants. The fuel flowing through the aircraft's skin would cool the surfaces as it vaporizes before being injected into combustion chamber.

In addition, specialists in many countries are currently working on new propeller engines considered much more economical and less noisy than jets. The only disadvantage is that propeller planes fly slower than jet planes. However, it has recently been announced that specialists succeeded in solving this problem. As a result a ventilator engine with a propeller often fibre-glass blades has been built, each being five meters long. It will be mounted in the experimental passenger plane.

ЗАДАНИЕ 7. Развитие навыков коммуникативного письма

Формы письменного сообщения: официальное и неофициальное письмо, CV, план, конспект, резюме текста, изложение его содержания с критической оценкой, реферирование и аннотирование.

ЗАДАНИЕ 8. Развитие навыков экстенсивного чтения по специальности

Расширение словарного запаса за счет освоения и использования научной терминологии по специальности в соответствующем контексте. Просмотровое и поисковое чтение текстов повышенного уровня сложности по специальности с последующим заданием на говорение, а именно, презентацией материала по заданной теме, грамотным составлением аннотации, резюме или реферата по тексту.

Критерии формирования оценок по заданиям для самостоятельной работы студента (типовые задаия):

«отлично» (_2_ балла) - обучающийся показал глубокие знания лексики и грамматики по поставленным заданиям, хорошо ориентируется в терминологии, владеет правилами построения предложений. Свободно использует необходимые речевые формулы при переводе текстов с английского языка на русский и с русского на английский и пересказе;

«хорошо» (1,5__ балла) - обучающийся твердо знает материал, грамотно его излагает, не допускает существенных неточностей в процессе выполнения заданий;

«удовлетворительно» (_1__балл) - обучающийся имеет знания основного материала

по поставленным вопросам, но не усвоил его деталей, допускает отдельные неточности при выполнении заданий;

«неудовлетворительно» (менее __1__ баллов) – обучающийся допускает грубые ошибки в при выполнении заданий;

5.1.3. Оценочные материалы для выполнения эссе по дисциплине контролируемая компетенция УК-4):.

Эссе представляет собой доклад на определенную тему, включающий обзор соответствующих литературных и других источников или краткое изложение книги, статьи, исследования, а также доклад с таким изложением.

Написание и защита эссе на аудиторном занятии используется в дисциплине «Иностранный язык» в целях приобретения обучающимся необходимой профессиональной подготовки, развития умения и навыков самостоятельного научного поиска: изучения литературы по выбранной теме, анализа различных источников и точек зрения, обобщения материала, выделения главного, формулирования выводов и т. п.

С помощью эссе обучающийся глубже постигает наиболее сложные проблемы данной дисциплины, учится лаконично излагать свои мысли, правильно оформлять работу, докладывать результаты своего труда.

Примерные темы эссе:

1. Почему я хочу получить образование компьютерного инженера в Кабардино-Балкарском государственном университете.
2. Компьютер – легко и просто?
3. Легко ли работать специалистом оптоволоконных сетей?
4. Устройство процессора

3.2.2. Оценочные материалы: Типовые тестовые задания по дисциплине «Иностранный язык в профессиональной сфере» (контролируемая компетенция УК-4)

Тест – система стандартизированных заданий, позволяющая автоматизировать процедуру измерения уровня знаний и умений студента.

Образцы тестовых заданий

V1: From The History Of The Radio

I:

S: Broadcasting, Radio and Television, primary means by which information and entertainment are delivered to the public … every nation around the world.

+: in virtually

-: on virtually

-: the virtually

-: in practically

I:

S: The term broadcasting refers to the airborne transmission of electromagnetic audio signals (radio) or … (television) that are readily accessible to a wide population via standard receivers.

+: audiovisual signals

-: video signals

-: cinematic signals
-: audiovisual indicators
I:
S: Broadcasting is a crucial instrument … social and political organization.
+: of modern
-: if modern
-: the modern
-: of contemporary
I:
S: At its peak of influence in the middle of 20-th century, national leaders often used radio and television broadcasting to address entire …
+: countries
-: nations
-: states
-: kingdoms
I:
S: Because of its capacity to reach large numbers of people, broadcasting has been regulated since it was recognized as a significant means …
+: of communication
-: in the communication
-: of announcement
-: of statement
I:
S: Beginning in the early 1980s, new technologies – such as cable television and videocassette players – began eroding the dominance of broadcasting in mass …, splitting its audiences into smaller, culturally distinct segments.
+: communications
-: infrastructures
-: roads
-: public services
I:
S: Previously a synonym … and television, broadcasting has become one of several delivery systems that feed content to newer media.
+: for radio
-: in radio
-: the transistor
-: for receiver

V1: Radio Broadcasting
I:
S: The story of radio begins in the development of an earlier medium, the telegraph, the … instantaneous system of information movement.
+: first
-: two
-: three

-: four
I:
S: Patented simultaneously in 1837 in the United States by the inventor Samuel F. B. Morse and in Great Britain by scientists Sir Charles Wheatstone and Sir William Fothergill Cooke, the … telegraph realized the age-old human desire for a means of communication free from the obstacles of long-distance transportation.
+: electromagnetic
-: electronic
-: radio
-: electrical
I:
S: Morse's first message, «What hath God wthroudht?»- transmitted as a coded series of short and long electronic impulses (so- called dots and dashes)-conveyed his awareness of the momentous proportions of …
+: the achievement
-: the attainment
-: the success
-: the realization
I:
S: The usefulness … was such that over the next half century wires were strung across much of the world, including a transatlantic undersea cable(about 1866) connecting Europe and North America.
+: of telegraphy
-: in the telegraphy
-: of telecommunication
-: in cable
I:
S: The instantaneous arrival of a message from a place that required hours, days, or weeks to reach by ordinary transport was such a radical departure from familiar experience that some telegraph offices were able to collect admission fees … wanting to witness the feat for themselves.
+: from spectators
-: from audiences
-: are spectators
-: from listeners
I:
S: Scientists in many countries worked to devise a system that could … the limitations of the telegraph wire.
+: overcome
-: overawed
-: dazed
-: overwhelmed
I:

S: In 1895 Italian inventor Guglielmo Marconi transmitted a message in Morse code that was picked up about 3 km (about 2 mi) away by a receiving device that had no wired connection to Marcni's …
+: transmitting device
-: communicating device
-: conducting device
-: transferring device
I:
S: Marconi had … that an electrical signal could be cast broadly through space so that receivers at random points could capture it.
+: demonstrated
-: established
-: proved
-: revealed
I:
S: The closed circuit of instant communication, bound by the necessity of wires, had at last been opened by a so-called wireless ...
+: telegraph
-: telecommunication
-: transmit
-: telex
I:
S: The invention was also called a radiotelegraph (later shortened to radio), because its signals moved outward in all directions, or rapidly, from the point of …
+: transmission
-: program
-: diffusion
-: conduction
I:
S: Within 5 years a wireless signal had been … across the Atlantic Ocean from England to Newfoundland, Canada.
+: transmitted
-: communicated
-: conducted
-: transferred
I:
S: Broadcasting … on other fronts as well.
+: advanced
-: unconventional
-: radical
-: traditional
I:
S: In 1904 an American inventor Lee De Forest built a series of radio broadcasting stations in the Caribbean basin to facilitate greater … in shipping perishable goods from Central America to ports in the United States.

+: efficiency
-: productivity
-: effectiveness
-: competence
I:
S: These linked stations, which shared current informations on weather and market conditions, … the first broadcasting network.
+: constituted
-: founded
-: started
-: instituted
I:
S: The work of Canadian inventor Reginald Fessenden, later elaborated upon by De Forest, allowed for the broadcast transmission of a wider range of sounds, including ….
+: the human voice
-: the social voice
-: the mortal voice
-: the human singing
I:
S: Although in the early days of radio broadcasting was dominated by … and hobbyists
+: experimenters
-: alchemists
-: transformers
-: pseudoscientists
I:
S: Before 1917 the U.S. government, which had begun requiring licenses for radio operators in 1912, had issued more than 8000 licenses to hobbyist …
+: broadcasters
-: presenters
-: journalists
-: newsreaders

V1: Solar power
I:
S: The Sun-Mate Info-Mate radio is not one that one would expect in this kind of review, because its main feature is that the radio can be powered using a built-in hand-cranked generator, built-in solar panels, a car lighter adaptor, AC or included rechargeable Ni-Cad ….
+: batteries
-: sets
-: strings
-: sequences
I:
S: However, since the 11-band Info-Mate uses Hitachi … and tunes a number of shortwave bands, I decided to include it.
+: technology

-: knowledge
-: expertise
-: machinery
I:
S: Finally, there is old Panasonic RF2200: a bit long in the tooth right now, but still going … after all these years.
+: strong
-: sturdy
-: durable
-: tough
I:
S: All the … were compared against each other, on the same frequencies and at the same time.
+: radios
-: transistors
-: hi-fis
-: broadcastings
I:
S: For reception, I either used the built-in whip … on the set or the 6-meter rollout wire antenna supplied by Grundig.
+: antenna
-: projection
-: protuberance
-: tentacle
I:
S: Without a doubt, the Grundig Millennium won hands down in all categories except … and price.
+: portability
-: movability
-: transportability
-: compactness
I:
S: It just sounds better, is relatively easy to use-as much as any world-band radio is- and has good sensitivity to …
+: signals
-: indications
-: indicators
-: signs
I:
S: In particular, the bandwidth filters on the Millennium, which allow users to block out … stations by narrowing the ammount of spectrum being received, are a blessing.
+: adjacent
-: together
-: head-to-head
-: contiguous
I:

S: Easily the best all-round … set I worked with.
+: listening
-: attending
-: at the listening
I:
S: Close behind … place was the Sangean ATS-505.
+: in second
-: on the second
-: at second
-: in next
I:
S: It just did not sound as good as the Millennium due to its smaller …
+: speaker
-: chatterer
-: talker
-: orator
I:
S: However, … remembering that the ATS-505 costs a good bit less.
+: it is worth
-: in the worth
-: were the worth
-: or the worth
I:
S: When it came up to performance, the ATS-505 & the Millennium were head-to-head, based … Signal-Interference-Noise-Propagation-Overall(SINPO) ratings.
+: a subjective
-: an the subjectived
-: in subjective
-: a individual
I:
S: For instance, the Millennium won out … Radio Sweden International on 18960 kHz at 12:50 UTC.
+: receiving
-: getting
-: in receipt of
-: being paid
I:
S: However, the ATS-505 did better with the BBC on 9515 kHz 25 minutes earlier, simply because it somehow avoided … hum that the Grundig picked up.
+: an annoying
-: in the annoyed
-: at the annoyed
-: an irritating
I:
S: So, the verdict is: for … performance on a budget, the ATS-505 is the best choice.

+: versatile
-: the in versatile
-: adaptable
-: handy
I:
S: The number … slot was shared by the venerable Panasonic RF2200, the Mini World 100 PE and surprise the Info-Mate.
+: three
-: one
-: two
-: four
I:
S: Depending on the station, each set showed better performance than the other ….
-: three
-: one
+: two
-: four
I:
S: The morale is that if … is what is most important, then buy the Mini World 100 PE.
+: portability
-: movability
-: transportability
-: transferability
I:
S: If you don't want to worry about … source, then buy the solar-powered Info-Mate.
+: a power
-: at the power
-: in the a powered
-: a control
I:
S: Which … me to the Grundig Classic 960.
+: brings
-: in the brings
-: a bringer
-: the bringing
I:
S: It has a great look; it even has input jacks for CDs … audio.
+: or computer
-: in compeering
-: the computers
-: or processer
I:
S: But as for shortwave …, the two world bands on the Classic 960, although continuous, are too crowded; just like a 50-year-old radio would be.
+: reception

-: receptions
-: greeting
-: in reaction
I:
S: This is a receiver for those who love the look of a classic radio, & whose shortwave listening tends towards BBC & other strong, easily received ….
+: stations
-: the station
-: in stations
-: positions
I:
S: This said, the Grundig Classic 960 still a work of art as far as I.
+: am concerned
-: am concern
-: at concern
-: am disturbed
I:
S: Geneva: Until late last year, NRJ Leman was just another local afflicate of NRJ, relaying 20 hours … each day from Paris.
+: of programming
-: of program
-: or programmed
-: in the program
I:
S: But since last December, NRJ Leman has been broadcasting its 100-percent locally made music … on 103.6 MHz 7 days a week, 24 hours a day.
+: program
-: of program
-: or programmed
-: in the program
I:
S: In order to achieve this changeover to a fully local service, a new production facility was required for …
+: the station
-: in stations
-: on stationed
-: the stationed
I:
S: Everything was pulled down in order to reconstruct 2 broadcasting studios one for NRJ Leman & one for the local Nostalgie station, which broadcasts the national Nostalgie … with a 4-hour local break every day.
+: program
-: of program
-: or programmed
-: in the program

I:
S: The new facility also included … studio and a production studio that could act as a backup broadcasting studio for NRJ Leman and Nostalgie.
+: a recording
-: a record
-: an the recorded
-: the record
I:
S: Studio acoustics received special …
+: attention
-: attentions
-: attentional
-: the attention
I:
S: For Perreau, the only way … good sound is to have high-quality sources.
+: to achieve
-: the achieves
-: in achieved
-: or the reach
I:
S: For voices, this means using high-quality microphones in a perfect …
+: environment
-: setting
-: situation
-: atmosphere
I:
S: The … project was the complete digitization of the group stations NRJ, Nostalgie, Cherie FM & Rires et Chansons.
-: three
+: first
-: two
-: four
I:
S: The project … replacing CD-based music with a computerized playback system.
+: involved
-: involve
-: involves
-: at the involved
I:
S: NRJ group … equipped the fronted of the Nostalgie network with a custom-built Audiovisuel Ingenierie & Informatique (A21) digital radio system to handle the broadcasting of music & advertising.
-: three
+: first
-: two

-: four

V1: Nanotechnology
I:
S: Nanomaterials - materials having unique properties arising from their nanoscale dimensions - can be stronger or lighter, or conduct heat or electricity …
-: on a different way
-: were a different way
+: in a different way
-: it is different way
I:
S: They can even change colour; particles … appear red, blue or gold, depending on their size.
-: in the can
+: of gold can
-: on can gold
-: were gold
I:
S: These special attributes … used in a number of ways, such as in the manufacture of computer chips, CDs and mobile phones.
+: are already being
-: the already
-: is already being
-: on the being
I:
S: Researches are progressively finding out more about … world and aim to use nanotechnologies to create new devices that are faster, lighter, stronger or more efficient.
-: on nanomachines
-: it is nano
+: the nanoscale
-: were nanomachines
I:
S: Nanotechnologies are widely seen as having huge potential in areas as diverse as healthcare, IT and energy …
-: loading
+: storage
-: packing
-: storing
I:
S: A focus of frontline interdisciplinary research today is the development of the conceptual framework and the experimental … of the science of nanostructured materials and the perspectives of its technological applications.
+: background
-: upbringing
-: education
-: on the background

I:
S: The implications of quantum size and shape effects on the energetics, nuclear–electronic level structure, electric-optical response and dynamics, reveal new unique physical phenomena that qualitatively differ from those of the bulk matter and provide avenues for the control of the function …
+: of nanostructures
-: of nano
-: nanomachines
-: of structures
I:
S: Current applications in the realm of nanoelectronics, nanooptoelectronics, and information nanoprocessing are addressed, and other … highlighted.
+: directions
-: on the directions
-: instructions
-: orders
I:
S: Nanotechnology, shortened to "nanotech", is the study of the controlling of matter on an atomic and …
-: nanomolecular scale
+: molecular scale
-: molecular ruler
-: nanomolecular gage
I:
S: Nanotechnology deals with structures of the size 100 nanometers or smaller in at least one dimension, and involves developing materials or devices within …
-: that scope
+: that size
-: the magnitude
-: on the size
I:
S: Nanostructures are assembled a single atom, molecule, or atomic layer …, as part of a vast new field of research in nanomaterials synthesis and assembly.
-: on the time
-: at a while
+: at a time
-: at the interval
I:
S: Generally, structures smaller than a nanometer tend to behave much like individual atoms, while materials that are hundreds … or greater in size exhibit properties of the continuum.
+: of nanometers
-: at the nanometers
-: of nanomachines
-: of nanoliters
I:

S: Nanoscale properties and behaviors … different as the result of unique physical and chemical interactions.
+: can be quite
-: match be quite
-: can be rather
-: at the moderately
I:
S: The preponderance of surfaces …, and the physical confinement of matter and energy, can alter nearly all properties of materials (physical, chemical, optical, etc.), and thus produce extraordinary new behaviors.
+: and interfaces
-: and borders
-: were interfaces
-: or borders
I:
S: Examples include generating light from dark materials, improving efficiencies of catalysts by orders of magnitude, and turning soft and ductile materials like gold into solids with hardness equivalent … steel.
+: to bearing
-: the behavior
-: a air
-: to attitude
I:
S: The final ingredient to nanotechnology is the ability to characterize and predict nanoscale properties and behavior. New experimental tools that are able to “see”, “touch”, and measure the behavior of individual … allow scientists and engineers to identify subtle differences in structure and properties that control nanoscale properties.
-: nanomachines
+: nanostructures
-: structures nano
-: nanoerections
I:
S: By coupling new experimental techniques … computational tools, researchers can develop, verify, and refine models and simulations that will allow the full potential for nanotechnology to be explored.
-: by advanced
-: with progressive
+: with advanced
-: were advanced
I:
S: There has been much debate on the future implications …
+: of nanotechnology
-: of equipment
-: the nanotechnology
-: or nanostructures

I:
S: … has the potential to create many new materials and devices with a vast range of applications, such as in medicine, electronics and energy production.
+: nanotechnology
-: nanomachines
-: nanostructures
-: nanomolecules
I:
S: On the other hand, nanotechnology raises many of the same issues as with any introduction of new technology, including concerns about the toxicity and environmental impact of nanomaterials, and their potential effects … economics, as well as speculation about various doomsday scenarios.
-: the global
-: were total
+: on global
-: a worldwide
I:
S: These concerns have led to … advocacy groups and governments on whether special regulation of nanotechnology is warranted.
-: the among
+: a debate among
-: discussion among
-: a debate between
I:
S: …, more functional, and more accurate medical diagnostic equipment.
+: faster
-: nearer
-: at the faster
-: sooner
I:
S: Nanomaterial surfaces … improve wear and resist infection.
+: on implants
-: the implants a
-: on transplants
-: grafts
I:
S: Nanoparticles in pharmaceutical products improve their absorption within the body and make them easier to deliver, often through combination ….
-: biological devices
-: pharmacies devices
+: medical devices
-: physical devices
I:
S: Nanoparticles can also be used to deliver chemotherapy drugs …, such as cancer cells.
-: to detailed cells

+: to specific cells
-: to specific lockups
-: at the cells
I:
S: Improved vehicle fuel efficiency and corrosion resistance … vehicle parts
from nanocomposite materials that are lighter, stronger, and more chemically resistant than metal.
-: by structure
-: the house
-: were construction
+: by building
I:
S: Nanofilters remove nearly all airborne particles from … it reaches the combustion chamber, further improving gas mileage.
+: the air before
-: the midair
-: on air previously
-: a midcourse before
I:
S: Nanoparticles or nanofibers … can enhance stain resistance, water resistance, and flame resistance, without a significant increase in weight, thickness, or stiffness of the fabric.
+: in fabrics
-: on the fabric
-: a material
-: is textile
I:
S: For example, “nano-whiskers” on pants make them resistant … and stains.
+: to water
-: a sea
-: at the rainwater
-: the materials
I:
S: Water filters that are only 15-20 nanometers wide can remove nano-sized particles, including virtually all viruses and
+: bacteria
-: material
-: structures
-: nanobacteria
I:
S: These cost-efficient, portable water treatment systems are ideal for improving the quality of drinking water …
+: in emerging countries
-: on emerging nations
-: the developing countries
-: a countries emerging

I:
S: Carbon nanotubes have a variety of commercial uses, including making sports equipment stronger and …
+: lighter weight
-: a nimbler weight
-: the lighter weightiness
-: at the weight
I:
S: For example, a tennis racket made with carbon nanotubes bends less during impact, and increases the force and … of the delivery
+: accuracy
-: correctness
-: a accuracies
-: were accurateness
I:
S: Nanoparticle-treated tennis balls can keep bouncing twice … as standard tennis balls.
+: as long
-: as little
-: a long ago
-: as fast
I:
S: … today are made from nanoparticles that effectively absorb light, including the more dangerous ultraviolet range.
+: most sunscreens
-: maximum sunscreens
-: a record sunscreens
-: a least sunscreens
I:
S: These same nanoparticles are also used … to reduce UV exposure and prolong shelf life.
+: in food packaging
-: on nutrition packaging
-: at the food packaging
-: a food packaging
I:
S: Many drink bottles are made from plastics containing nanoclays, which increase resistance to permeation …, carbon dioxide, and moisture.
+: by oxygen
-: in oxygen
-: through a oxygen
-: by oxygenic
I:
S: This helps retain … and pressure and increases shelf life by several months.
+: carbonation
-: carbonate
-: carbonations

-: the carbonate
I:
S: Thanks to nanotechnology, a huge variety … can be programmed to detect a particular chemical at amazingly low levels, for example, a single molecule out of billions.
+: of chemical sensors
-: at a chemical sensors
-: the biological sensors
-: of chemical instruments
I:
S: This capability is ideal for … and security systems at labs, industrial sites, and airports.
+: surveillance
-: shadowing
-: investigation
-: observation
I:
S: On the medical front, nanosensors can also be used to accurately identify particular cells or substances …
+: in the body
-: on the form
-: in the body
-: in the organism
-: within the body

V1: Memory
I:
S: Memory … computer subsystem.
+: is the predominant
-: on predominant
-: were predominant
-: a not predominant
I:
S: The ideal memory is inexpensive, small in size, and … in capacity.
+: large
-: longer
-: small
-: minor
I: 104
S: It consumes … power and operates at the same speed as computer logic.
-: large
+: little
-: small
-: minute
I:
S: …, such a memory is a concept rather than a reality.
+: today

-: a moments
-: at the today
-: nowadays
I:
S: Therefore, … optimum storage capability, computer designers have partitioned storage into many memories serving specialized purposes.
+: to provide
-: a provide
-: were provide
I:
S: Read-only memories (ROM), write optional memories (WOM), and associative memories … extensively in medium and large family members - particularly in establishment of system management.
+: can be used
-: can are used
-: can the
-: with used
I:
S: Associative memories …. for compiling, job assignment, parallel processing, search operations, handling of priorities and interrupts, and recognition of I/O commands.
+: can be used
-: can are used
-: can the
-: with used
I:
S: Programmable logic arrays can perform many of the executive processes currently performed by software and … to tailor a system to meet particular user needs.
+: can be used
-: can are used
-: can the
-: with used
I:
S: These arrays and associative memories can replace operating system programs and … to establish logical system organization.
+: be used
-: can are used
-: can the
-: with used
I:
S: Registers and discrete bit storage … for temporary storage of data and instructions, for implementing arithmetic and logic operations, and for memory addressing.
-: can be used
+: are used
-: can the
-: with used

I:
S: These components … frequently and operate at the same speed as computer logic.
-: can be used
+: are referenced
-: can the
-: with used
I:
S: Registers of fourth generation computers … on a single monolithic chip.
+: are fabricated
-: are used
-: can the
-: with used
I:
S: High-speed scratch-pad and control memories … stratum of storage hierarchy.
+: are another
-: the another
-: are added
-: with alternative
I:
S: These memories are also used … storage of specialized data, including intermediate results of arithmetic operations, instructions, short subroutines which are repeatedly executed, frequently referenced data, and control functions.
+: for temporary
-: the temporary
-: for provisional
-: are temporality
I:
S: The speeds of these memories are not as fast as the speed of computer logic but are usually an order … faster than the speed of main memory.
+: of magnitude
-: in the magnitude
-: are magnitudes
-: of greatness
I:
S: Capacities range up to 10^s bits. Batch-fabricated, bipolar transistor arrays will predominate this area ….
+: in the near future
-: on near futures
-: were the future
-: in the near coming

V1: Software
I:
S: The chips and other electronic elements and the various peripheral devices constitutes … hardware.

+: the computer's
-: the computer on
-: in or computer's
-: the nanocomputer's
I:
S: The hardware can do nothing by itself; it requires the array of programs, …. , collectively called software.
+: or instructions
-: and a instruction
-: instructions were
-: or commands
I:
S: The core of the software is an "operating system" that controls … operations and manages the flow of information.
+: the computer's
-: the computer on
-: in or computer's
-: the nanocomputer's
I:
S: The operating system mediates between the machine and the human operator and between the machine and an "application" program that enables … to perform a specific task.
+: the computer
-: the computer on
-: in or computer's
-: the nanocomputer's
I:
S: To understand the kind of tasks done by the operating system, consider the sequence of steps that must be taken to transfer a file of data … memory to disk storage.
+: are the primary
-: from primarily
-: the primary or
-: from the key
I:
S: It is first necessary to make certain there is enough space available … to hold the entire file.
-: are disk
+: on the disk
-: the disks
-: on the CD-ROM
I:
S: Other files might have to … in order to assemble enough continuous blank sectors.
-: to no deleted
+: to be deleted
-: delete are
-: to be information
I:

S: For the transfer itself sequential portions … must be called up from the primary memory and combined with "housekeeping" information to form a block of data that will exactly fill a sector.
+: of the file
-: in file
-: or files
-: of the sleeve
I:
S: Each block must be assigned a sector address and transmitted … .
-: are disk
+: to the disk
-: the disks
-: on the CD-ROM
I:
S: Numbers called checksums that allow errors in storage or transmission … and sometimes corrected must be calculated.
-: to no deleted
+: to be deleted
-: delete are
-: to be information
I:
S: Finally, some record must be kept of where … of information has been stored.
+: the file
-: in file
-: or files
-: of the sleeve
I:
S: If all these tasks had to be done under the direct supervision of the user, the storage of information … would not be worth the trouble.
+: in a computer
-: the computer on
-: in or computer's
-: the nanocomputer's
I:
S: Actually the entire procedure can be handled … system; the user merely issues a single command, such as "Save file".
+: by the operating
-: in operating
-: operating the
-: by the functioning
I:
S: When the information in the file is needed again an analogous command (perhaps "Load file") begins a sequence of events in which … system recovers the file from the disk and restores it to the primary memory.
+: the operating
-: in operating

-: operating the
-: by the functioning

V1: Universal Assemblers
I:
S: These second-generation nanomachines - built of more … - will do all that proteins can do, and more.
+: than just proteins
-: are just protein
-: just protein or
-: than impartial proteins
I:
S: In particular, some will serve as improved devices … molecular structures.
+: for assembling
-: for assembly
-: are the assembling
-: for collecting
I:
S: Able to tolerate acid or vacuum, freezing or baking, depending on design, enzyme-like second-generation machines will be able to use as "tools" almost any of the reactive molecules used by chemists - but they will wield them … of programmed machines.
+: with the precision
-: the precision
-: per the precision
-: with the correctness
I:
S: They will be able to bond atoms together in virtually any stable pattern, adding a few …to the surface of a workpiece until a complex structure is complete.
+: at a time
-: were a time
-: time the
-: at a spell
I:
S: Think of such nanomachines ….
+: as assemblers
-: or assembler
-: in the assemblers
-: as reasonable
I:
S: Because assemblers will let us place atoms in almost any reasonable arrangement, they will let us build almost anything … of nature allow to exist.
+: that the laws
-: when law
-: that are laws
-: that the regulations

I:
S: In particular, they will let us build almost anything we can design - including ….
+: more assemblers
-: more regulations
-: in the assembler
-: extra assemblers
I:
S: The consequences of this …, because our crude tools have let us explore only a small part of the range of possibilities that natural law permits.
+: will be profound
-: determination be profound
-: will stay profound
-: will be philosophical
I:
S: Assemblers will open a world ….
+: of new technologies
-: of original technologies
-: of new machineries
-: old technologies
I:
S: Advances … of medicine, space, computation, and production - and warfare - all depend on our ability to arrange atoms.
+: in the technologies
-: or technology
-: the technology
-: in the machineries
I:
S: …., we will be able to remake our world or destroy it.
+: with assemblers
-: or assembler
-: in the assemblers
-: as reasonable
I:
S: So at this point it seems wise to step back and look at the prospect as clearly as we can, so we can be sure … and nanotechnology are not a mere futurological mirage.
+: that assemblers
-: or assembler
-: in the assemblers
-: as reasonable

V1: Nanocomputers
I:
S: Assemblers will bring one breakthrough of obvious and basic importance: engineers will use them to shrink the size and cost of computer circuits and speed … by enormous factors.
+: their operation

-: are operations
-: that operation
-: their process
I:
S: With today's bulk technology, engineers make patterns on silicon chips … atoms and photons at them, but the patterns remain flat and molecular-scale flaws are unavoidable.
+: by throwing
-: in throw
-: on the throwing
-: by tossing
I:
S: With assemblers, however, engineers will build circuits …, and build to atomic precision.
+: in three dimensions
-: were dimension
-: dimensions in three
-: in three magnitudes
I:
S: The exact limits of electronic technology today remain uncertain because the quantum behavior of electrons … networks of tiny structures presents complex problems, some of them resulting directly from the uncertainty principle.
+: in complex
-: a complex
-: the complex's
-: in compound
I:
S: Whatever the limits are, though, they will be reached with the help ….
+: of assembler
-: or assembler
-: in the assemblers
-: as reasonable
I:
S: The fastest computers will use electronic effects, …. may not.
+: but the smallest
-: but small
-: then a smallest
-: but the minimum
I: 148
S: This may seem odd, yet the essence … has nothing to do with electronics.
+: of computation
-: a the computation
-: the computations
-: of calculation
I:
S: A … is a collection of switches able to turn one another on and off.
+: digital computer

-: the computer on
-: in or computer's
-: the nanocomputer's
I:
S: Its switches start in one pattern, then switch …. a new pattern, and so on.
+: one another into
-: two another in
-: another six into
-: one additional into
I:
S: Engineers build computers from tiny electrical switches connected by wires simply because mechanical switches connected … strings would be big, slow, unreliable, and expensive, today.
+: by rods or
-: are rods on
-: were rods in
-: by poles or
I:
S: The idea … mechanical computer is scarcely new.
+: of a purely
-: on the purely
-: of purely a
-: of a chastely
I:
S: In England during the mid-1800s, Charles Babbage invented … computer built of brass gears; his co-worker Augusta Ada, the Countess of Lovelace, invented computer programming.
+: a mechanical
-: the mechanicals
-: a motorized
-: the automatic
I:
S: Babbage's endless redesigning …, problems with accurate manufacturing, and opposition from budget-watching critics, combined to prevent its completion.
+: of the machine
-: in the machines
-: are machine is
-: of the mechanism
I:
S: In this tradition, Danny Hillis and Brian Silverman of the MIT Artificial Intelligence Laboratory built a special-purpose mechanical … to play tic-tac-toe.
+: computer able
-: the computer on
-: in or computer's
-: the nanocomputer's
I:

S: Yards on a side, full of rotating shafts and movable frames that represent the state … and the strategy of the game, it now stands in the Computer Museum in Boston.
+: of the board
-: in a board
-: the board or
-: of the panel
I:
S: It looks much like a large ball-and-stick molecular model, … of Tinkertoys.
+: are it is built
-: for in built
-: on is builts
-: for it is constructed
I:
S: Brass gears and Tinkertoys make for big, ….
+: slow computer
-: the computer on
-: in or computer's
-: the nanocomputer's
I:
S: With components a few atoms wide, though, a simple mechanical … fit within 1/100 of a cubic micron, many billions of times more compact than today's so-called microelectronics.
+: computer would
-: the computer on
-: in or computer's
-: the nanocomputer's
I:
S: Even with a billion bytes of storage, … computer could fit in a box a micron wide, about the size of a bacterium.
+: a nanomechanical
-: the computer on
-: in or computer's
-: the nanocomputer's
I:
S: So a mere mechanical computer will work faster …. whirl-winds of today.
+: than the electronic
-: what the electronics
-: were electronic
-: than the electric
I:
S: Electronic nanocomputers will likely be thousands of times faster than electronic microcomputers - perhaps hundreds of thousands of times faster, if a scheme proposed by Nobel Prize-winning physicist Richard Feynman works out.
+: if a scheme
-: if a system
-: on the scheme

-: doubt a scheme
I:
S: Increased speed through decreased size is an old story ….
+: in electronics
-: what the electronics
-: were electronic
-: than the electric

2. Фонд теоретических заданий по дисциплине «Иностранный язык в профессиональной сфере» для оценки компетенций

Код компетенции: УК-4

Вопросы по темам дисциплины «Иностранный язык» (устный опрос) **(контролируемые компетенции УК-4):**

Тема 1. Инженерное образование

Инженерное образование в Великобритании.
Инженерное образование в США.
Техническое и инженерное образование в России
Грамматика: Простое настоящее и настоящее длительное время (Present Simple and Present Continuous).

Тема 2. Профессия инженер

Что такое инженер.
Зачем становиться инженером.
Качества компетентного инженера
Грамматика: Схема вопроса, типы вопросительных предложений.

Тема 3. История становления инженерии

Инженерия в Древности.
Появление электричества.
Современная инженерия
Грамматика: Степени сравнения прилагательных.

Тема 4. Известные инженеры

Альфред Нобель и изобретение динамита.
Паровой двигатель и Джеймс Уатт.
Лизе Мейтнер и открытие ядерного деления
Грамматика: Простое прошедшее и прошедшее длительное время (Past Simple and Past Continuous).

Тема 5. Экологические проблемы Земли

Наша планета — Земля.
Экологические проблемы Земли.
Промышленность и окружающая среда
Грамматика: Будущее время (Future Simple).

Тема 6. Энергия
Что Такое Энергия?
Технологии производства Энергии.
Зеленая энергия
Грамматика: Настоящее совершенное время (Present Perfect).

Тема 7. Электричество
Что Такое Электричество?
Как Вырабатывается Электроэнергия?
Электродвигатели.
Грамматика: Модальные глаголы

Тема 8. Машины и оборудование
Транспорт.
Строительство.
Машины и оборудование
Грамматика: Перевод прямой речи в косвенную

Тема 9. Компьютерные технологии
Компьютеры.
Нанотехнологии
Грамматика: Придаточные предложения условия и времени для обозначения действия в будущем

Тема 10. Современная инженерия
Задачи, стоящие перед инженерами.
Человеческая цивилизация в следующем десятилетии.
Технологии 21 века
Грамматика: Страдательный залог (Passive Voice).

Тема 11. Современные мобильные устройства
Монитор.
Телефоны.
Ноутбук
Грамматика: Сложное дополнение

Тема 12. Технологии будущего
Виртуальная реальность.
Умные устройства.
Программирование на расстоянии
Грамматика: Сложное подлежащее

Оценочные материалы для текущего контроля успеваемости (контролируемые компетенции УК-4)

Задания для практических занятий

Exercise 1. Find the pronunciation of the following words in the dictionary and translate them into Russian

empire, history, globe, colony, economic, political, cultural, industry, diplomacy, revolution, official, organization, status, business, aviation, population, climate, territory, million, energy, monarch, geography, nation, republic, tourism, ecology.

Exercise 2. Active vocabulary. Learn the following words:

1. the leading international language	a) по всему миру
2. the main cause	b) так же, как
3. throughout the world	c) наводнить рынок
4. world history	d) главный международный язык
5. to flood the market	e) к тому же
6. as well as	f) в некоторой степени
7. in addition	g) главная причина
8. to some degree	h) множество
9. a lot of	i) мировая история

Exercise 3. Translate the following word combinations into Russian before reading the text:

federal republic, a special federal area, new graduates, the capital, unemployment rate, highly mechanized

Exercise 4. Read and translate the following text into Russian:

The Monitor

We interact with computers by entering instructions and data into them. After the information has been processed (обрабатывать), we can see the results (i.e. the output) on the visual display unit (VDU — устройство виртуального отображения) or the monitor. In this interactive process with the computer, the screen plays an important part.

The pictures and the characters (символы) we see on the screen are made up of picture elements which are also called pixels. The total number of pixels the display is divided in (both horizontally and vertically) is known as resolution. When the number of pixels is very large, we obtain a high resolution display and therefore a sharp image. If the number of pixels is small, a low resolution is obtained. Thus, pixel density or resolution affects the quality of the image: a larger number of pixels gives a much clearer image. The cathode ray tube of the monitor is very similar to that of a TV set. Inside the tube there is an electron beam which scans the screen and turns on or off the pixels that make up the image. The beam appears in the top left corner, and scans the screen from left to right in a continuous sequence, similar to the movement of our eyes when we read, but much faster. This sequence is repeated 50, 60 or 75 times per second, depending on the system. In a colour monitor, the screen surface is coated (покрывать) with substances called phosphors. Three different phosphor materials are used — one each for red, green and blue. A beam of electrons causes phosphor materials to give coloured light from which the picture is formed. Colour monitors are capable to display many different colours at the same time. Portable computers use a flat liquid-crystal display (LCD) instead of a picture tube..

VOCABULARY EXERCISES

Exercise 5. Give the English equivalents to the following words and word combinations:
Граничить, нанимать на работу, отделиться от сфера туризма, в год, чудеса природы, со всего мира, исторические достопримечательности, конкурировать, казино

Exercise 6. Find the corresponding English word for the Russian word.
Найдите русскому слову соответствующее английское.
конструктор — design, designer, to design
стабилизировать — stabilizer, stability, stabilize
самый последний — latest, late, later
эффективный — efficient, efficiency, efficiently
характеристика, работа — perform, performing, performance
надежно — reliable, reliability, reliably
немыслимый — thinking, thinkable, unthinkable
невесомость — weightlessness, weightless, weight

Exercise 7. Translate the selected words and phrases, remember them.
1. At higher schools specialization **generally** begins in the third year.
2. Nowadays we **generally** have computers at every plant.
3. This doesn't improve the speed of transport vehicles **in general** and that of an automobile **in particular.**
4. The **general** principles of the design of new transport machines **in general** and diesel locomotives **in particular** can be found in the new magazine.
5. The fifth-generation computers performing 100 billion operations a second will become available in the near future.
6. Because of the extreme temperatures **generated** by atmospheric friction a craft will require protection.
7.The **generation** of electric power increases every year.

GRAMMAR EXERCISES

Exercise 8. Fill in the blanks with appropriate verb forms ***was*** **/** ***were*** **или** ***wasn't*** **/** ***weren't.***
1. English … a language of the Anglo-Saxons.
2. In the past England … rich in mineral resources.
3. Where … you at 10 o'clock last Saturday morning?
4. This time last month I … at home.
5. The Roman Empire … a very powerful state of the past.
6. They … very tired yesterday.
7. … they in England or Scotland two years ago?
8. Mr Smith … not in his office yesterday.
9. The world's first skyscraper … in Chicago.
10. Wales and Scotland … independent until the 13th century.

Exercise 9. Translate into Russian paying attention to the Participles:
1. Specialists reported that a miniature video camera provided the latest submersible with vision.

2. The speed of a satellite would be less provided it moved at a greater distance from the Earth.
3. Drivers don't know yet whether radars will be mounted on the next car models.
4. If the weather is too bad for flying, passenger airplanes don't leave aiфorts.
5. It was very important to find out if electricity could be used for long distance communication.
6. During the entire flight, the pilot is provided with all the necessary information about weather conditions.
7. Modern submersibles can remain at the depth of 20,000 feet for eight hours or, if needed, as long as two or three days.
8. A new system for motor cars can be provided with infrared sensors that can detect a human figure at night.
9. If underwater tourism continued to develop at the present rate, the number of passengers could grow up to millions in only a few years.

SPEECH EXERCISES

Exercise 10. Answer the questions.

1. What apparatuses are used for exploring the ocean depths at present? (non-military submersibles) 2. What countries are developing such submersibles? (Russia, the USA, France and Japan)
3. What kind of submersible is being designed? (an advanced manned submersible)
4. What is the depth it is capable to submerge to? (21,000 feet)
5. What motor is used in it? (a battery-operated electric motor)
6. What devices are provided for collecting samples from the ocean floor? (robotic manipulators)
7. What is the practical application of the submersible? (cultivating sea plants, fish and pearls)

Exercise 11. Find in the text the right word to complete the sentences.

1. English … an international language now, but many centuries ago it … unpopular.
2. Last year I … 17, this year I … 18 years old.
3. Now my friend … a student, but last year he … a pupil.
4. I … away on business now, but ten days ago I … in my native town.
5. Last time you … right, but this time I … afraid you … wrong.
6. He … in France last year, but this year he … in his native village.
7. Yesterday the day … fine, now it … windy.
8. When I … a child, I … fond of dogs.
9. We … tired after the journey and we … very hungry.
10. You … not at home yesterday. Where … you?

Оценочные материалы для самостоятельной работы обучающегося (типовые задания) (контролируемая компетенция УК-4)

Самостоятельное изучение разделов дисциплины

№п/п	Вопросы, выносимые на самостоятельное изучение
1	Профессиональная деятельность специалиста
2	Резерфорд
3	Инженерная Автоматика
4	Процессор

Перечень заданий для самостоятельной работы

ЗАДАНИЕ 1. Развитие фонетических навыков

1.Практикуйте произношение следующих звуков:

[b], [p], [g], [k], [t], [t], [s], [d], [z], [s], [c], [f], [v], [w], [d], [g], [h], [l], [m], [n], [n], [z], [r].

2. Прочитайте следующие слова:

[b]: be, born, boy, by
[p]: parent, person, put, up
[d]: doctor, do, hard, deep
[g]: go, get, against
[k]: kind, killer, take
[t]: tall, teacher, pet
[θ]: thanks, both, teeth
[s]: study, sister, breakfast
[z]: zink

[*f*]: short, she, brush
[f]: father, French, family
[v]: very, voice, five
[w]: well, with, will
[h]: hospital, hostel, has, he
[l]: lady, long, lot, love
[m]: medicine, my, moment, must
[n]: name, morning, Anatomy
[r]: read, relative, parent

3. Практикуйте произношение следующих слов:

Radioactivity, measurement, interaction, society, nervous, elimination, basic, proportion, seriously, symbolic, anxious, ecological.

ЗАДАНИЕ 2. Развитие лексических навыков

4. Прочитайте и переведите следующие предложения:

1. Наш анализ неполный по нескольким причинам. Другим доводом в пользу этого метода является то, что он гораздо более безопасный.
2. Я объяснил выбор темы своего исследования. Совершенно очевидно, что взаимодействие частиц будет очень слабым в этом случае.
3. Эксперимент не удался по причинам, не зависящим от ученых. У нас есть все основания предполагать, что результаты будут интересными.

5. Дайте синонимы к следующим словам из текста:

encode, capacity, disintegrate, emission, widen, intensive, incredible, defence, stranger, reality, strengthen, fulfilment, indestructible, amplification, substance, entirely, vaporize

6. Найдите к словам в колонке А антонимы из колонки В.

A	B
1. long	a. absence
2. forward	b. permanent
3. increase	c rapid
4. heavy	d. short
5. slow	e. lightweight
6. invisible	f. complexity
7. changing	g. rearward
8. with	h. inward
9. simplicity	i. visible
10. rise	j . without

11. presence	k. decrease
12. outward	1. fall

7. Найдите русские эквиваленты для словосочетаний.:

the physics discoveries, discoveries that led to, the scientific advantage, advantage could well come to nation, to bring the mankind to, mercury wire, unexpected phenomenon, to return to normal state, by passing electric current, by applying magnetic field, to make a great contribution, they introduced a model, a model proved to be useful, a theory won for them the Nobel Prize, research in superconductivity, research became especially active, the achieved record of 23 K.

исследования особенно активизировались; исследования в области сверхпроводимости; теория, за которую они получили Нобелевскую премию; привести человечество к ...; преимущество в науке; открытия в области физики; достигнутая рекордная отметка в 23 К; открытия, которые привели к...; преимущество могла бы получить нация (страна); ртутная проволока; вернуться в обычное состояние; пропуская электрический ток; внести большой вклад; неожиданное явление; они предложили (ввели) модель; прикладывая магнитное поле; модель оказалась эффективной.

8. Найдите предложения со сложным подлежащим, переведите.

1. The phenomenon of superconductivity appears to have been discovered as early as 1911.
2. Before 1911 superconductivity was assumed to be impossible.
3. Recent discoveries in superconductivity made scientists look for new conducting materials and for practical applications of the phenomenon.
4. The latest achievements in the field of superconductivity are certain to make a revolution in technology and industry.
5. Recommendations from physicists will allow the necessary measures to be taken to protect the air from pollution.
6. Lasers are sure to do some jobs better and at much lower cost than other devices.
7. M. Faraday supposed a light beam to reverse its polarisation as it passed through a magnetised crystal.
8. Superconductors are likely to find applications we don't even think of at present.
9. A Dutch physicist found a superconducting material to return to normal state when a strong magnetic field was applied.
10. Properties of materials obtained in space prove to be much better than those produced on Earth.

9. Сопоставьте следующие английские словосочетания с русскими:

1. the rest of	a) быстрое развитие
2. federal district	b) постоянный рост
3. steady growth	c) опережать, быть впереди других
4. unemployment rate	d) федеральный округ
5. rapid development	e) равный
6. be ahead in	f) рынок труда
7. equal	g) уровень безработицы
8. job market	h) чувство безопасности и уверенности

9. a sense of safety and confidence i) остальной

10. **Найдите синонимы и антонимы**

below — above; useful — useless; easy — difficult; field — sphere; to meet demands — to meet requirements (needs); full — complete; to use — to apply; to get — to obtain; moreover — besides; sufficient — enough; likely — unlikely; to continue — to discontinue; conductivity — nonconductivity; to vary — to change; to lead to — to result in; recent — latest; advantage — disadvanta

ЗАДАНИЕ 3. Развитие грамматических навыков

11. Заполните пропуски словами *conduct, superconductivity, superconductor, superconduc*

1.... at high temperatures was almost discovered in 1979.

2. The Russian scientists found an oxide of metal they were experimenting with to ... electric current. Moreover, the lower the temperature, the less resistance the material had.

3. The resistance continued to fall in liquefied nitrogen. To continue the experiments, they needed liquid helium. To obtain it was quite a problem at that time. So the experiments were stopped.

4. But it was this compound of copper, lanthanum and oxygen that proved to be a ... for which the

Swiss physicists were honoured with a Noble Prize in 1987.

5. Later neither efforts nor money were spared (жалеть, экономить) for the study of the ... materials. Moreover, there were no longer any problems with helium.

12. Найдите русскому слову соответствующее английское

достижение — achievable, achievement, achieve;
электронный — electronics, electronic, electron;
легче — easily, easy, easier;
удовлетворять — satisfy, satisfactory, satisfaction;
действительно — reality, realise, really..

13. Переведите следующие предложения на английский язык

The pie chart shows countries of origin of legal migrants to the USA. Take it in turns with a partner to describe the chart. *Model*: 34.6% of immigrants come from Asia. There are 34.6% Asian immigrants in the USA.

ЗАДАНИЕ 4. Развитие навыков аудирования

Фонологическое, лексическое, грамматическое аудирование. Коммуникативное аудирование материалов в зависимости от уровня владения языком:

-понимание общего содержания прослушанной информации

-детальное понимание прослушанного,

-восстановление полного текста в письменном виде при многократном прослушивании

-вычленение и понимание определенной информации, ограниченной коммуникативным заданием

-умение, помимо адекватного восприятия и осмысления сообщения, понимать намерения, установки, переживания, состояния и пр. говорящего.

ЗАДАНИЕ 5. Развитие навыков говорения

14. Прочитайте и переведите текст без словаря.

Exploration experts suggest that the tiny moon Phobos should be used as a perfect place for gas refilling station. Some scientists think Phobos rocks to contain crystalline ice. If one heats them, it will be possible to produce water. The latter could be divided into hydrogen and oxygen which are necessary components for rocket propulsion. Such a fuel supply would greatly reduce the amount of weight that must be delivered from the Earth for manned missions to Mars. Thus, it might be possible for spacecrafts to leave the Earth for Mars carrying no return fuel. To get home, they should simply fill up at Phobos.

15. Ответьте на вопросы

1. What is the ISS? (the most complex and expensive structurespace and research facility orbiting the Earth)
2. What will it look like when completed? (a supersize Lego set, almost as long as a football field)
3. What is its size compared with Russian-built Mir space station? (five times the Mir station size)
4. What modules is it expected to consist of? (36 modules)
5. How many countries are involved in the project? (16 countries)
6. What methodology is being used to build the ISS? (the same methodology as for Mir but on a larger scale)
7. What is the purpose of the ISS? (to promote international cooperation and create peacetime jobs for highly skilled workers and engineers)

16. Прочитайте текст и будьте готовы передать его содержание:

Super Phones

Not long ago it became known that cell phone manufacturers were experimenting with several different designs for the handheld devices that would be linked to the advanced wireless networks of the future. If these machines really are to become digital companions, they will have to be versatile, adaptable and fashionable (модный).

Companies such as Nokia, Ericsson and Motorola are working on the third-generation «super phone» that will look quite different from existing cell phones. In fact, calling them phones seems absurd (неразумный). They will have built-in colour screens several inches square for presentation of high resolution graphics and video. Some may have a keyboard and a miniature mouse for data input, but most of them will use touch-sensitive (сенсорный) screens and styluses (перо, пишущий узел) like those employed now by the handheld computers.

In addition to carrying voice communication, the super phone will also be able to play music files that are circulating on the Web in the most popular MP3 format (or in whatever format may replace it).

ЗАДАНИЕ 6. Развитие навыков коммуникативного чтения

17. Прочитайте текст MODERN ENGINEERING и ответьте на вопросы

Engineering is a main driver of human development. In recent years engineering has greatly influenced quality of our life and become a tool which makes changes to environment, society and economies. Engineers have devised new equipments and goods, power systems, weapons, new materials, transport and transportation systems, design of buildings, etc. The 20th century was a revolutionary period in the history of modern civilization. Let's consider some of its greatest engineering achievements.

Electrification. The wide distribution of electrical power in the 20th century brought light to the world and power to almost every home and plant in modem society. Electrification is responsible for innumerable developments that have made life safer, healthier and more convenient; now it is hard to imagine our lives without it. It runs the smallest electric devices in homes and offices, the huge computers that control power grids1 and telecommunications systems, and the machinery that produces consumer goods.

Automobile. At the beginning of the 19th century an average person travelled about 1,920 km in an entire lifetime, mostly on foot. Today an average person travels about 16,000 km a year by automobile alone, and there are half a billion cars in the world. The automobile has become the major transporter of people and goods in the world.

Airplane. Air travel has revolutionized our world. After the Wright brothers achieved the first successful flight in 1903, the airplane developed rapidly, particularly in response to the needs of World War I, with advances in materials, wing design, and engines. In 1939, the gas turbine was introduced and this marked the beginning of jet transport. Today air travel makes possible transporting goods and people around the globe.

Electronics. From vacuum tubes to transistors and microprocessors; electronic devices became smaller, more powerful and more efficient throughout the 20th century and provided the technological basis for countless innovations and products. The vacuum tube led to the early designs of the radio, television and computer. The key to this amazing revolution is the integrated circuit — the heart of the modern electronic systems. Brilliant engineering ;\nd innovation lie behind these elements that operate wireless communications, satellite broadcasts, air traffic control systems, microwave ovens, video cameras, touch-tone phones, computers, and many other innovations that have improved the quality, safety and convenience of modern life.

Radio and Television. The introduction of radio and television were major reasons of social change in the 20th century. By the middle of the 1930s almost every home in the world had a radio, and in the 1940s the television first reached the market.

Computers. Perhaps no other engineering device has attracted the attenion of an average person as much as a computer. A computer has become an essential part of every major industry — communications, manufacturing, research, medicine, education, government, entertainment, and others. It has t ransformed business and lives around the world, increased productivity and opened access to vast amounts of knowledge with little effort.

Telephone. In the 20th century after a remarkable series of innovations, engineers transformed a system of copper wire, wooden poles and primitive transmitters into a modern telephone. Nowadays telephone poles with their thousands of miles of copper wire are being replaced by new technologies, mobile telephones

Air Conditioning and Refrigeration. Our life changed greatly in the 20th century when air conditioning and refrigeration systems became more efficient. Climate control has become so reliable and inexpensive that it has grown from an invisible luxury to a common necessity.

Control of air temperature and quality provides the clean environments necessary for surgery, manufacture of computer chips and many types of research.

Internet. The Internet was devised in the 1960s as a tool to exchange information and share resources. What eventually grew out of this project is an amazing cheap technology that is now available to ordinary people at home, universities, public libraries and “cyber” cafes. Today the Internet has over 150 million users from 65 countries. We are only beginning to realize the future possibilities of its use.

Laser and Fiber Optics. Pulses of light from lasers are used in industrial tools, surgical devices and satellites. Fiber optic cables are used for modern communications; they carry much more information than copper cables.

Nuclear Technologies. Today nuclear power plants generate about 20% of the world’s electrical power. Nuclear power is safer than fossil fuel systems in terms of industrial accidents, environmental damage, health effects and long-term risks.

18.Вставьте пропущенные слова:

7. Air _____ has revolutionized our world.
8. The _____ tube led to the early designs of the radio, television and computer.
9. Let’s consider some of its greatest _____ achievements
10. The key to this amazing _____ is the integrated circuit — the heart of the modern electronic systems.
11. We are only beginning to realize the _____ possibilities of its use.
12. The introduction of radio and television were major reasons of _____ in the 20th century.

Vacuum, social change, travel, revolution, engineering, future

20. Прочитайте следующий текст и перескажите его:

A New Era for Aircraft

Aviation experts expect that today's aircraft will begin to be replaced with some new form of supersonic transport in a few years' time. A 21st century hypersonic aircraft may open a new age of aircraft design.

The designers of this country displayed the project of such a supersonic passenger liner among the prospective models at one of the latest Aerospace Salon held on the old Le Bourget airfield in Paris. An elongated fuselage with a sharp nose and without a horizontal stabilizer makes it look more like a rocket. The speed matches the looks. This plane will fly at a speed five to six times above the speed of sound, e.g., it will cover the distance between Tokyo and Moscow in less than two hours. The diameter of the fuselage will be 4 meters and the overall length 100 meters, with the cabin accomodating 300 passengers. The future superlanes of such a class will have no windows, but the passengers can enjoy watching the panorama of the Earth on the TV monitor at the front of the cabin. They will fly so fast that ordinary aircraft windows would make the structure too weak to withstand the stresses at such a speed. At high velocities the air resistance in the lower atmosphere is so great that the skin is heated to very high temperature. The only way out is to fly higher. Therefore, airliners' routes will mainly lie in the stratosphere.

In general, to build a reliable hypersonic plane one has to overcome a whole set of technological and scientific difficulties. Apart from creating highly economical combined

engines and heatinsulating materials, designers have to make such an amount of thermodynamic computations that can't be performed without using supercomputers. One of the ways to make planes as economical as possible is lightening the aircraft by substituting new composite materials for conventional metal alloys. Accounting for less than 5 per cent of the overall aircraft weight now, the percentage of composite material parts will exceed 25 per cent in new generation models. An extensive use of new materials combined with better aerodynamics and engines will allow increasing fuel efficiency by one-third.

Because of the extreme temperatures generated by the atmosphere friction, a hypersonic craft will also require complicated cooling measures. One possibility is using cryogenic fuels, such as liquid hydrogen, as both coolants and propellants. The fuel flowing through the aircraft's skin would cool the surfaces as it vaporizes before being injected into combustion chamber.

In addition, specialists in many countries are currently working on new propeller engines considered much more economical and less noisy than jets. The only disadvantage is that propeller planes fly slower than jet planes. However, it has recently been announced that specialists succeeded in solving this problem. As a result a ventilator engine with a propeller often fibre-glass blades has been built, each being five meters long. It will be mounted in the experimental passenger plane.

ЗАДАНИЕ 7. Развитие навыков коммуникативного письма

Формы письменного сообщения: официальное и неофициальное письмо, CV, план, конспект, резюме текста, изложение его содержания с критической оценкой, реферирование и аннотирование.

ЗАДАНИЕ 8. Развитие навыков экстенсивного чтения по специальности

Расширение словарного запаса за счет освоения и использования научной терминологии по специальности в соответствующем контексте. Просмотровое и поисковое чтение текстов повышенного уровня сложности по специальности с последующим заданием на говорение, а именно, презентацией материала по заданной теме, грамотным составлением аннотации, резюме или реферата по тексту.

3. Оценочные материалы для выполнения эссе по дисциплине (контролируемая компетенция УК-4):.

1. Напишите эссе на заданную тему

1. Почему я хочу получить образование компьютерного инженера в Кабардино-Балкарском государственном университете.
2. Компьютер – легко и просто?
3. Легко ли работать специалистом-электроником?
4. Устройство процессора

5. Вопросы к зачету для оценки компетенции по дисциплине «*Иностранный язык в профессиональной сфере*».

Оценочные средства для проведения промежуточной аттестации (зачет) (контролируемая компетенции УК-4):

Вопросы к зачету 2 семестр

1. Переведите предложения на английский язык, обращая внимание на грамматические структуры

1. Применение энергии является ключевым вопросом в развитии человеческого общества
2. В современном мире электричество используется в промышленности и сельском хозяйстве, коммуникационной сфере и транспорте, а также в повседневной жизни.
3. Электричество — это определенный набор физических явлений, который характеризуется присутствием и определенным течением электрического заряда.
4. Электрический ток используется в качестве энергии для различных видов механизмов.
5. Электроэнергетика, без сомнения, является становым хребтом современной промышленности и повседневной жизни.
6. Один из наиболее выгодных, но в то же время опасных способов производства электричества — ядерные электростанции.
7. Электроника заключает в себе производство и обработку пучков электронов.
8. Электрические сигналы производятся приборами, которые превращают первоначальный источник информации в слабые электрические токи.
9. Существуют два вида электрического сигнала: аналоговый и цифровой.
10. Полупроводники обладают промежуточным сопротивлением потому, что у них есть некоторое количество свободных электронов
11. Вторая кнопка мыши стала мощным оружием.
12. Объем ресурсов и услуг, которые являются частью WWW, растет чрезвычайно быстро.
13. Каждая ссылка, выбранная вами представляет документ, графическое изображение, видеоклип или аудио файл где-то в Интернет.
14. Интернет может быть также использован для целей развлечения.
15. Вы получаете доступ к ресурсам Интернет через интерфейс или инструмент, который называется веббраузер.
16. Вся эта деятельность возможна благодаря десяткам тысяч компьютерных сетей, подключенных к Интернет и обменивающихся информацией в одном режиме.
17. Пользователи общаются через электронную почту, дискуссионные группы, чэт-каналы и другие средства информационного обмена.
18. Самая малая отрицательная заряженная частица.
19. Вещество, проводящее электрический ток
20. Комплекс устройств, соединенных между собой, через которые протекает электрический ток

2. Переведите термины с русского языка на английский

1. движущиеся электроны
2. уменьшать искажение
3. цифровой
4. требуемые результаты
5. двумя основными способами

6. полупроводниковые приборы
7. промежуточное сопротивление
8. соединение
9. усилитель
10. сопротивление проводника
11. электрическая мощность
12. очень чувствительные
13. часто используются
14. измерять электрический ток
15. потенциальная разница
16. должен быть соединен
17. распределять
18. переменный
19. следующий
20. необходимый
21. электроника
22. минимальный
23. размер
24. электронный
25. элемент
26. диапазон.
27. поглощение
28. оптический
29. излучение
30. независимый
31. направление
32. длина
33. волна
34. поверхностный
35. плотность
36. мощность
37. оптический
38. излучение
39. испускаемый

40. направление