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АНГЛИЙСКИЙ ЯЗЫК

Методические указания
для студентов всех технических специальностей
заочного отделения

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А 647

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Работа подготовлена на кафедре иностранных языков

ПОЯСНИТЕЛЬНАЯ ЗАПИСКА

Настоящее издание адресовано студентам I курса всех технических специальностей, изучающим английский язык на заочном отделении НГТУ, и состоит из двух частей.

- Рабочая программа.
- Контрольные задания.

В программе сформулированы конкретные задачи обучения, структура курса и промежуточные цели, а также указываются тематика и характер языкового материала, и типы упражнений, рекомендуемых для освоения различных видов языковой деятельности на разных этапах учебного процесса. В программу включены требования к текущему и итоговому контролю. Программа курса рассчитана на один год обучения в объеме 340 часов (I – II семестры): I семестр – зачет, II семестр – экзамен.

Начинать работу надо с тщательного изучения краткого фонетического курса по данному учебнику*. Тренировочные фонетические упражнения служат базой для развития навыков произношения. Все уроки вводного курса построены по единой схеме. В начале каждого урока дан раздел «Грамматика», где указан грамматический материал, который необходимо проработать. Далее предлагается текстовый материал, который надо прочитать и перевести на русский язык. К каждому тексту есть словарный список для запоминания. Кроме того, студентам рекомендуется пользоваться двуязычным словарем.

В течение семестра в дни консультаций студент должен сдать тексты, требуемые по программе, и выполнить письменно один из пяти вариантов контрольной работы № 1 (I семестр) и

* Андрианова Л.Н., Багрова Н.Ю., Ершова Э.В. Курс английского языка для вечерних и заочных технических вузов. – М.: Высшая школа, 1988; 2000.

контрольной работы № 2 (II семестр), вариант выбирается по последней цифре шифра студента:

1, 2 – вариант № 1

5, 6 – вариант №3

3, 4 – вариант № 2

7, 8 – вариант №4

9,0 – вариант № 5

Контрольную работу следует выполнять в отдельной тетради. На обложке тетради необходимо указать свою фамилию, номер контрольной работы и вариант. Контрольная работа должна быть написана аккуратным, четким почерком, ответы на тестовые задания следует давать в развернутом виде с указанием буквы правильного варианта ответа. При выполнении контрольной работы оставляйте в тетради широкие поля для замечаний, объяснений и методических указаний рецензента. Задания должны быть представлены в той же последовательности, в которой они даны в контрольной работе. После проверки контрольной работы её следует защитить устно. При устной защите студент должен ответить на вопросы преподавателя по материалу контрольной работы.

После сдачи всего материала по плану рабочей программы ***I семестра*** и устной защиты контрольной работы № 1 студент допускается к **зачету**.

После сдачи всего материала по плану ***II семестра*** и устной защиты контрольной работы № 2 студент допускается к **экзамену**.

ОСОБЕННОСТИ КУРСА

- Курс разработан на кафедре иностранных языков и входит в учебный план НГТУ.
- Курс ориентирован на государственный стандарт.
- Курс адресован студентам-заочникам, обучающимся по техническим направлениям и специальностям.
- Курс ориентирован на самостоятельное изучение иностранного языка на базе программы средней школы.
- Курс направлен на развитие навыков чтения с последующей смысловой обработкой информации в виде перевода или аннотации.
- Курс построен по модульной схеме.
- Курс имеет практико-ориентированный характер: для студентов проводится одна установочная лекция в семестр, на ко-

торой обсуждается учебная программа и планируется их будущая самостоятельная деятельность. В дальнейшем обучающимся предлагают консультации по программе обучения.

- Оценка знаний и умений студентов проводится в соответствии с целями.

- Методическим обеспечением курса является учебник «Курс английского языка для вечерних и заочных технических вузов» (авторы: Андрианова Л.Н., Багрова Н. Ю., Ершова Э.В., – М.: Высшая школа, 1988; 2000).

ЦЕЛИ И ЗАДАЧИ ИЗУЧЕНИЯ КУРСА

После изучения курса студент будет в общинтеллектуальной области:

- осознавать, распознавать и создавать собственные алгоритмы продуктивной учебной деятельности по изучению иностранного языка;

- выделять главное в текстах на иностранном языке и интерпретировать прочитанное;

- применять логические приемы мышления (аналогия, сравнение, анализ, синтез);

- адекватно осуществлять самооценку и самоконтроль (до, в ходе и после выполнения работы);

- представлять результаты работы в удобной для восприятия форме.

в области предметной:

лексика

- владеть лексическим минимумом в объёме 4000 лексических единиц;

грамматика

- уметь распознавать основные грамматические конструкции при работе с текстом (времена, залоги, типы вопросов, модальные глаголы, согласование времен, неличные формы глагола, сослагательное наклонение);

- уметь делать письменный перевод текста на русский язык;

говорение

- уметь вести беседу с преподавателем на темы, определённые программой (не менее 8–10 вопросов и ответов);

аудирование

- понимать на слух иноязычную речь в предъявлении преподавателя или в записи, построенную на изученном материале;

чтение

- воспринимать смысловую структуру текста;
- распознавать значения слов по контексту;
- выделять главную и второстепенную информацию;
- уметь перевести незнакомый текст со словарем (800 печатных знаков);
- интерпретировать содержание прочитанного текста (на русском языке);

- уметь работать со словарем;

письмо

- уметь выполнить контрольную работу на английском языке и представить в удобной для предъявления преподавателю форме;
- уметь написать на английском языке эссе по тематике разговорных тем;
- уметь составить план прочитанного текста.

СТРУКТУРА И СОДЕРЖАНИЕ КУРСА

Курс рассчитан на 340 часов (170 часов в каждом семестре).

- Установочная лекция – 4 ч (по 2 ч в каждом семестре)
- Самостоятельная работа – 312 ч (по 156 ч в каждом семестре)
- Консультации / Практические занятия – 20 ч (10 ч в каждом семестре)
- Зачёт / экзамен – 4 ч (по 2 ч в каждом семестре)

Курс включает выполнение двух контрольных работ.

I семестр – контрольная работа № 1 (варианты 1 – 5)

II семестр – контрольная работа № 2 (варианты 1 – 5)

Курс завершается.

I семестр – зачёт
II семестр – экзамен

Курс состоит из пяти модулей.

Модуль 1. Вводный курс – правила чтения и произношения
Модуль 2. Основы инженерных наук – Fundamentals of Engineering
Модуль 3. Отрасли техники – Engineering Areas
Модуль 4. Технический прогресс – Technological Progress
Модуль 5. Разработки и достижения – Developments and Achievements

I семестр – изучение модулей 1 – 3
II семестр – изучение модулей 4, 5

Курс направлен на самостоятельное изучение разговорных тем.

I семестр 1) О себе
Personal Profile
2) Мой рабочий день
My Working Day
II семестр 1) Университет, в котором я учусь
University I Study at
2) Россия – моя страна
Our Country

СТРУКТУРА И СОДЕРЖАНИЕ САМОСТОЯТЕЛЬНОЙ РАБОТЫ

I семестр – 156 часов (уроки 1–8; учебник Л.Н. Андриановой и др.)				
Номер модуля	Название модуля / разговорной темы	К-во часов	Содержание модуля / разговорной темы	
			Тематика	Грамматика
1.	Вводный курс повторения правила чтения и произношения	16	<ul style="list-style-type: none"> – Чтение гласных в открытом и закрытом слоге – Чтение согласных – Чтение диграфов – Буквосочетания – Ударение в многосложных словах – Интонация (с.5–27) 	
2.	Основы инженерных наук – Fundamentals of Engineering (Уроки 1– 5)	50	<ul style="list-style-type: none"> – На лекции по геометрии – At the Lecture on Geometry – Система измерений – System of Measurements – Text A (Урок 1–2), с. 33 (уч. 2000 г. изд.), с. 22 (уч. 1988 г. изд.) – Великие учёные – Albert Einstein – Text A (Урок 3), с. 45 (уч. 2000 г. изд.), с. 34 (уч. 1988 г. изд.) – Земля и космос – Our Star – the Sun – Text A (Урок 4), с. 70 (уч. 2000 г. изд.), с. 62 (уч. 1988 г. изд.) – Человек и наука – Machine Tools – A Measure of Man's Progress – Text A (Урок 5), с. 81 (уч. 2000 г. изд.), с. 74 (уч. 1988 г. изд.) 	<ul style="list-style-type: none"> – Артикль a / the – Существительное (род, число, падеж, исчисляемые, неисчисляемые) – Глаголы to be, to have – Оборот there + be – Числительные – Indefinite (present, past, future) – Местоимения (личные, притяжательные, относительные, количественные) – Степени сравнения прилагательных – Слова-заместители – Модальные глаголы и их эквиваленты – Порядок слов в английском предложении

I семестр – 156 часов (уроки 1–8; учебник Л.Н. Андриановой и др.)				
Номер модуля	Название модуля / разговорной темы	К-во часов	Содержание модуля / разговорной темы	
			Тематика	Грамматика
3.	Отрасли техники – Engineering Areas (Уроки 6– 8)	40	<ul style="list-style-type: none">– Гидротехника – Flood Defence System – Text A (Урок 6), с. 95 (уч. 2000 г. изд.), с. 90 (уч. 1988 г. изд.)– Химическая отрасль – In the Chemical Laboratory – Text A (Урок 7), с. 108 (уч. 2000 г. изд.), с. 103 (уч. 1988 г. изд.)– Радиотехника – Radio and TV March Ahead – Text A (Урок 8), с. 121 (уч. 2000 г. изд.), с. 116 (уч. 1988 г. изд.)	<ul style="list-style-type: none">– Страдательный залог– Типы предложений (безличные, придаточные дополнительные, определительные)– Времена группы Continuous / Progressive– Времена группы Perfect
	Дополнительный модуль <i>Разговорные темы:</i> 1. О себе Personal Profile 2. Мой рабочий день My Working Day	10 10	<ul style="list-style-type: none">– Текст: Meet my family (с. 245, учебник изд. 2000 г.)– Вопросы по теме– Essay: Personal profile– Текст: Daily Programme (с. 251, учебник изд. 2000 г.)– Вопросы по теме– График рабочего дня	
	Проверочный тест № 1	5	Контрольные вопросы по пройденному грамматическому материалу: учебник изд. 2000 г., с. 88 + тест № 1, с. 89	
	Проверочный тест № 2	5	Контрольные вопросы по пройденному грамматическому материалу: учебник изд. 2000 г., с. 128 + тест № 2, с. 128	
	Контр. работа № 1 (один из пяти вариантов)	20	Комплексный тест (чтение, перевод, лексика, грамматика) см. метод. указания по английскому языку для ЗАО	
Итого: 156 часов самостоятельной работы				

СТРУКТУРА И СОДЕРЖАНИЕ САМОСТОЯТЕЛЬНОЙ РАБОТЫ

II семестр – 156 часов (уроки 9–15)				
Номер модуля	Название модуля / разговорной темы	Кол-во часов	Содержание модуля / разговорной темы	
			Тематика	Грамматика
4.	Технический прогресс – Technological Progress (Уроки 9– 11)	45	<ul style="list-style-type: none"> – Новые металлы – Better Metals – Text A (Урок 9), с. 135 (уч. 2000 г. изд.), с. 131 (уч. 1988 г. изд.) – Гордость русской науки – D.I. Mendeleev – Pride of Russian Science – Text A (Урок 10), с. 146 (уч. 2000 г. изд.), с. 142 (уч. 1988 г. изд.) – Источники энергии – Sources of Power – Text A (Урок 11), с. 157 (уч. 2000 г. изд.), с. 153 (уч. 1988 г. изд.) 	<ul style="list-style-type: none"> – Инфинитив (The Infinitive), его функции в предложении – Причастие (The Participle), его функции в предложении – Герундий (The Gerund), его функции в предложении
5.	Разработки и достижения – Developments and Achievements (Уроки 12– 15)	56	<ul style="list-style-type: none"> – Ядерная техника – ТОКАМАК – Text B (Урок 12), с. 176 (уч. 2000 г. изд.), с. 174 (уч. 1988 г. изд.) – Компьютеры – Computers Help to Control Train Traffic – Text B (Урок 13), с. 185 (уч. 2000 г. изд.), с. 184 (уч. 1988 г. изд.) – Космическая техника – The Unique Telescope – Text B (Урок 14), с. 196 (уч. 2000 г. изд.), с. 194 (уч. 1988 г. изд.) 	<ul style="list-style-type: none"> – Согласование времён – Бессоюзные дополнительные придаточные предложения – Объектный инфинитивный оборот – Придаточные предложения подлежащего и сказуемого – Сослагательное наклонение – Условные придаточные предложения

Окончание таблицы

II семестр – 156 часов (уроки 9–15)				
Номер модуля	Название модуля / разговорной темы	Кол-во часов	Содержание модуля / разговорной темы	
			Тематика	Грамматика
			– Современные электростанции – Pumped Storage Plants – Text В (Урок 15), с. 207 (уч. 2000 г. изд.), с. 205 (уч. 1988 г. изд.)	
	Дополнительный модуль Разговорные темы: 1. Университет, в котором я учусь 2. University I Study at 2. Россия – моя страна Our Country	10 		

СТРУКТУРА И СОДЕРЖАНИЕ ЗАЧЕТА – I СЕМЕСТР

I. Допуск к зачёту

- Чтение и перевод подготовленных текстов (уроки 1–8),
устно – с выписанными словами
- Устная защита контрольной работы № 1

II. Зачёт

- Письменный перевод незнакомого текста со словарём (500 печатных знаков – 30 мин.)
- Беседа с преподавателем (ответы на вопросы) по одной из подготовленных тем.

СТРУКТУРА И СОДЕРЖАНИЕ ЭКЗАМЕНА – II СЕМЕСТР

I. Допуск к экзамену

- Чтение и перевод подготовленных текстов (уроки 9-15),
устно – с выписанными словами
- Устная защита контрольной работы № 2

II. Экзамен

- Письменный перевод незнакомого текста со словарём (800 печатных знаков – 40 мин.)
- Ознакомительное чтение (1000 печатных знаков, время подготовки 15 мин.), передача содержания на русском языке
- Беседа с преподавателем (ответы на вопросы) по одной из подготовленных тем.

КОНСУЛЬТАЦИИ
по иностранному языку
проводятся каждый четверг месяца
с 17.05 до 20.00, I корпус, ауд. 402,
т. 46-03-23

Контрольная работа № 1
по английскому языку
для студентов заочного отделения,
обучающихся по всем техническим
направлениям и специальностям
I семестр

Вариант 1

I. Прочитайте и переведите текст (устно).

GRAVITATION

Gravitation is a very important force in the universe. Every object has a gravitational pull which is like magnetism. But, unlike magnetism, gravitation is not only in iron and steel. It is in every object large or small; but large objects, such as the earth, have a stronger pull than small ones.

Isaac Newton, the great scientist of the seventeenth century, first studied gravitation. When he was a boy, he often saw how apples fell to the ground. He wondered why they fell towards the earth and why they did not fly up into the sky.

According to the law which he later produced everything in the universe attracts everything towards itself. The sun attracts the earth and the earth attracts the sun. The earth attracts the moon and the moon attracts the sun. Although the bigger object has the stronger attraction, all objects, in fact, have some attraction too but we do not notice the gravitational pull of a book because the pull of the earth is much greater.

Why does the earth always move round the sun, and not fly off into the cold space? The sun's gravitation gives the answer. The earth always tries to move away in a straight line, but the sun always pulls it back. So it continues on its journey round and round the sun.

The sun is one of the stars in the galaxy, in which there are about 100,000 million stars. It is not in the middle of the galaxy, but rather near one edge.

There are millions of galaxies in the universe and so there are thousands of millions of suns. Many astronomers believe that some of these suns have planets as our sun does.

Gravitation is the force which holds all the atoms of a star together. It holds the sun together and it holds the atoms of the earth together. It holds us on the earth.

Einstein produced a new law of gravitation. Its main results are the same as the results of Newton's law; but in very small and fine matters Einstein's law gives different results. One of these is that gravitation bends light a little; but according to Newton's law gravitation has very little effect on light. Einstein showed this fact by means of mathematics and not by experiment. And astronomers later proved by experiments that Einstein was right.

II. Выберите правильный вариант ответа на вопросы по тексту.

1. *Who studied gravitation first?*
a) Isaac Newton b) Albert Einstein c) Ernest Rutherford
2. *What did he observe when he was a boy?*
a) stars in the sky
b) apples, falling to the ground
c) two magnets attracting each other
3. *How many stars are there in the galaxy?*
a) about 50,000 million
b) about 100,000 million
c) about 200,000 million

III. Закончите предложение по содержанию прочитанного текста.

4. *Gravitation exists...*
a) only in large objects
b) in every object
c) only in small objects
5. *All objects on the Earth...*
a) have strong attraction
b) have no attraction
c) have some attraction
6. *The Earth always moves round the sun because of...*
a) magnetism

- b) the sun's gravitation
- c) the moon's gravitation
- 7. *According to Newton's law gravitation...*
 - a) has a strong effect on light
 - b) does not bend light
 - c) has very little effect on light
- 8. *Gravitation holds...*
 - a) the atoms of the earth together
 - b) the molecules of air together
 - c) the electrons of elements together

IV. Подберите эквивалент к данному русскому слову.

- 9. *Опыт*
 - a) experimental
 - b) experiment
 - c) experimentalize
- 10. *Притяжение*
 - a) attract
 - b) attractive
 - c) attraction
- 11. *Влияние*
 - a) effect
 - b) effective
 - c) effector
- 12. *Сила*
 - a) forcible
 - b) force
 - c) forcing
- 13. *Предмет*
 - a) object
 - b) objectify
 - c) objectivity
- 14. *Закон*
 - a) lawful
 - b) law
 - c) lawless
- 15. *Атом*
 - a) atomic
 - b) atomics
 - c) atom

V. Выберите русское предложение, наиболее точно передающее содержание предъявленного предложения.

- 16. *According to the law which he later produced everything in the universe attracts everything towards itself.*
 - a) Согласно закону, который он открыл позже, все предметы во Вселенной притягиваются.
 - b) Позже он открыл закон, согласно которому все во Вселенной притягивается.
 - c) Согласно закону, который он открыл позже, существует сила, которая притягивает предметы во Вселенной.
- 17. *Gravitation is the force which holds all the atoms of a star together.*
 - a) Атомы звезды удерживаются при помощи гравитации.

- b) Гравитация – это сила, которая удерживает атомы звезды вместе.
 - c) Существует сила, которая удерживает атомы звезды вместе, она называется гравитацией.
18. *Although the bigger object has the stronger attraction all objects, in fact, have some attraction too but we do not notice the gravitation pull of a book because the pull of the earth is very much greater.*
- a) Фактически все предметы на земле притягиваются, но мы не можем наблюдать это, так как притяжение земли намного больше. Пример этому – книга.
 - b) Мы не можем наблюдать силу притяжения книги, поскольку сила притяжения земли намного больше, хотя фактически все предметы притягиваются, только крупные предметы имеют более сильное притяжение.
 - c) Хотя крупные предметы имеют более сильное притяжение, фактически все предметы притягиваются, но мы не видим гравитационную силу книги из-за большей гравитационной силы земли.

VI. Выберите английское предложение, наиболее точно передающее содержание предъявленного предложения.

19. *Every object has a gravitation pull which is like magnetism.*
- a) Every object attracts like magnetism.
 - b) Every object is characterized by gravity which is like magnetism.
 - c) Gravitation exists in every object which is like magnetism.
20. *Many astronomers believed that some of these suns have planets as our sun does.*
- a) Some of these suns are believed to have planets.
 - b) Many astronomers consider that our sun has planets as some other suns do.
 - c) Not only our sun has planets but there are some others suns, as many astronomers believe, which also have planets.
21. *Einstein showed this fact by means of mathematics and not by experiment.*
- a) Einstein used mathematics and experiment when showed the fact of gravitation.
 - b) Einstein showed the fact of gravitation using mathematics but not using an experiment.
 - c) Einstein showed the importance of an experiment and mathematics.

VII. Выберите правильную видовременную форму глагола.

22. *The plant ...3 years ago*
 a) reconstructed b) was reconstructed c) is being reconstructed
23. *They ...already...new methods in their research.*
 a) applied b) are applying c) have applied
24. *This work...by 7 o'clock.*
 a) will be done b) will have done c) will have been done
25. *Einstein...his theory of relativity in 1905.*
 a) have represented b) represented c) represents
26. *Computers ... data in a matter of minutes.*
 a) are processing b) process c) have processed

VIII. Заполните пропуски правильными модальными глаголами или их эквивалентами.

27. *Our designing bureau... to develop new equipment for our lab.*
 a) must b) should c) has
28. *Solar batteries ... heat and light homes.*
 a) need b) are able c) must
29. *The machines ... to be tested under normal conditions.*
 a) ought b) should c) need
30. *You ... take all these measurements. We already know the volume of gas in this tube.*
 a) are not allowed to b) can not c) need not
31. *As the student was late he... to enter the classroom.*
 a) may not b) was not able c) was not allowed

IX. Заполните пропуски прилагательными в нужной форме.

32. *The results of his last experiment were ... than before.*
 a) more bad b) worse c) the worst
33. *Your advice is ... for us.*
 a) the most important b) more important c) the importantest
34. *Mathematics is ... for technical students than subjects of humanities.*
 a) the easiest b) easier c) more easier

X. Переведите текст (письменно).

The energy which the Sun radiates every second is a million times greater than the energy which the world consumes every year.

Russian scientists found a way of utilizing this immense supply of energy with great efficiency. They constructed a very cheap water heater, which uses solar energy. Such heaters will be used in special-

ly designed houses. There is a factory which manufactures solar heaters for heating and hot-water systems.

There is a solar-powered boiler in Simferopol, which heats a five-storey hotel.

Buildings of several designs which use solar energy for heating and illuminating are also built in other southern regions of our country.

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I семестр

Вариант 2

I. Прочтите и переведите текст (устно).

A MACHINE SHOULD WORK, AND A MAN SHOULD THINK

The robots of our time resemble humans very little. According to specialists, the main thing for them is not to look like people, but to do their work for them. Factories which are equipped with automatic machine-tools, transfer lines and management information systems place a lot of hope in them.

Automation sought out areas where a robot can operate as well as a person but where people don't like working. In other words the man has created the robot so as not to become a robot himself.

The first generation of robots appeared in the 60s and they were complex and capricious in maintenance. They could perform operations of the type «take off-put on» or «pick up-bring».

They could pick up items only from definite positions determined by a rigid programme.

Today, to avoid errors, robots are supplied with vision (TV camera) and hearing (microphone). They can perform more complex production and operations – painting, soldering, welding and assembly work. A more complex task lies ahead – to remove people completely from production areas where there are harmful fumes, excessively high or low temperatures and pressure. People should not work in conditions that are dangerous. Let the robots replace them

there – and the sooner, the better. That is how Soviet scientists understand one of the main humanistic tasks of robotics of our time.

Generally speaking a single robot by itself is hardly of any use in production. It must be coupled in design with other equipment, with a system of machines, machine-tools and other devices. We must set up robotized complexes and flexible productions capable of transferring easily and quickly to an output of new goods.

Flexible production systems consist, as a rule of several machine-tools with numerical programmed control or of processing centres-machine-tools equipped with microprocessors. An all-purpose computer controls the entire cycle, including the storage facilities. One hundred per cent automated production is no longer a dream. Today Soviet enterprises produce over 1,000 robots every month.

There is already talk of making thinking robots. Apparently, robots will appear which will be able to discourse, understand and acquire the ability to study. May be they will be able to enrich our concepts about the world around us. But one thing is certain – a robot will never be able to grasp even the semblance of such emotions as love, honour, pride, pity, courage and selflessness.

II. Выберите правильный вариант ответов на вопросы по тексту.

1. *When did the first generation of robots appear?*
a) last year b) some years ago c) more than 40 years ago
2. *For what purpose has the man created the robot?*
a) for no purpose
b) to work in the areas where people can't work or don't like working
c) to get free from work
3. *How many robots do our enterprises produce every month?*
a) over 1000 robots b) about 100 robots c) 10000 robots

III. Закончите предложения по содержанию прочитанного текста.

4. *The main thing for robots is to....*
a) look like people
b) being no use
c) do men's work for them
5. *First robots*
a) were simple and easy in maintenance
b) could perform any operation
c) performed only definite kind of operations

6. *Robots appeared ...* .
 - a) to replace people completely
 - b) to remove people from dangerous production areas
 - c) to perform the easiest operations
7. *A single robot ...* .
 - a) must be included into robotized complexes
 - b) is quite possible in production
 - c) should not be coupled with other equipment
8. *Future robots ...* .
 - a) will be able to grasp such emotions as love, honour, pride and pity
 - b) will be able to enrich our concepts about the world around us
 - c) won't be able to understand or acquire the ability to study

IV. Подберите эквивалент к данному русскому слову.

9. *Тех. обслуживание (эксплуатация)*
 - a) maintenance
 - b) mainly
 - c) maintain
10. *Автоматизация*
 - a) automation
 - b) automatic
 - c) automatically
11. *Гуманный*
 - a) humanity
 - b) humanitarian
 - c) humanistic
12. *Вредный*
 - a) harmonious
 - b) harmful
 - c) harmless
13. *Оборудование*
 - a) equipment
 - b) equip
 - c) equipage
14. *Цифровой*
 - a) numeral
 - b) numeration
 - c) numerical
15. *Производство*
 - a) production
 - b) productive
 - c) productivity

V. Выберите русское предложение, наиболее точно передающее содержание предъявленного.

16. *Today to avoid errors, robots are supplied with vision (TV-camera) and hearing (microphone).*
 - a) В наше время для того, чтобы избежать ошибок в работе роботов, их наделяют зрением (телекамерой) и слухом (микрофоном).
 - b) В наше время роботы для того, чтобы избежать ошибок, снабжают нас зрением и слухом.
 - c) Сегодня роботы наделяются слухом и зрением, избегая ошибок.
17. *Let the robots replace them (people) – and the sooner the better.*
 - a) Позвольте роботам заменить людей как можно скорее.

- b) Пусть же роботы заменят людей – и чем скорее, тем лучше.
 c) Давайте заменим людей роботами – и чем скорее, тем лучше.
18. *People should not work in conditions that are dangerous for their life.*
 a) Люди не должны работать в опасных условиях.
 b) Людям не следует работать в опасных для жизни условиях.
 c) Люди не могут работать в условиях, опасных для жизни.
- VI. Выберите английское предложение, наиболее точно передающее содержание предъявленного.**
19. *Automation sought out areas where a robot can operate as well as a person but where people don't like working.*
 a) Automation found out areas where a robot can't work as well as a person.
 b) Automation tries to find out areas where a robot can replace a person.
 c) Automation managed to find out areas where a robot can successfully work instead of people.
20. *First robots were very complex and capricious in maintenance.*
 a) First robots could be run without any problems.
 b) First robots were not so flexible and easy in repair and assembly as modern ones.
 c) First robots were very complex but certain in maintenance.
21. *One hundred per cent automated production is no longer a dream.*
 a) One hundred per cent automated production is still a dream.
 b) One hundred per cent automated production is not a dream already.
 c) One hundred per cent automated production will come true.
- VII. Выберите правильную видовременную форму глагола.**
22. *People ... the robots so as not to become robots themselves.*
 a) were created b) have been created c) have created
23. *Today our enterprises ... over 1000 robots every month.*
 a) produce b) will produce c) are producing
24. *Evidently robots ... which will be able to understand and study.*
 a) are appearing b) will appear c) have been appeared
25. *Nowadays robots ... with vision and hearing.*
 a) are supplied b) are supplying c) were supplied
26. *Factories which ... with automatic machine-tools place a lot of hope in robots.*

- a) had equipped b) have equipped c) are equipped

VIII. Заполните пропуски правильными модальными глаголами или их эквивалентами.

27. *In the 60s robots ... pick up items only from definite positions.*
a) could b) are able to c) can
28. *People ... not work in conditions that are dangerous.*
a) were to b) need c) should
29. *It ... be coupled in design with other equipment.*
a) were to b) must c) have to
30. *May be robots of future ... to enrich our concepts about the world around us.*
a) could b) will be able c) allowed to
31. *We ... set up robotized complexes and flexible productions.*
a) must b) need c) may

IX. Заполните пропуски прилагательными в нужной форме.

32. *Let the robots replace them there and the sooner – the ...*
a) best b) good c) better
33. *Robots can perform ... production operations.*
a) complexer b) the complexest c) more complex
34. *People should not work in conditions that are ...*
a) dangerous b) most dangerous c) more dangerous

X. Переведите текст (письменно).

The exhibition "Intensification-90" which is devoted to economic and social developments of St. Petersburg region was on in St. Petersburg. Its exhibits show the tenants' efforts to improve the quality and efficiency of the region production. A large section of the exhibition demonstrates electronics.

The most impressive of the exhibits are robots. They can cut metals, drill holes, compute and teach. All robots are very much things of the present. A multipurpose lathe-robot is especially interesting in that it can "ask questions". An engineer showed how it works. He pressed a key which has the mark "Thread cutting". And "Thread pitch?" immediately appeared on the video display screen. The engineer pressed another key with the mark "I". Another question came on: "Thread length?". The robot has to get all the answers to all its questions before it goes to work.

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I семестр

Вариант 3

I. Прочтите и переведите текст (устно).

PLANET EARTH — OUR COMMON HOME

Ecology is a science which is concerned with the interrelations of organisms and their environment, that is with everything that surrounds them.

The ecologists are faced with a lot of problems in the modern world – the air we breathe, the water we drink, the food we eat, the soil we stand on, the great projects we construct...

There are about 6 billion people in the world at present. The population is growing very fast and scientists believe that in a few decades it will be too big for the earth to support.

The Earth is being constantly damaged in different ways. Speaking about the growth of population we have to admit the increase of industries and their harmful effects on the environment – the pollution of air from choking factory chimneys and the pollution of water because of industrial wastes.

Among the other serious problems which our planet is facing are: the increasing consumption of energy and water, the pollution of air by car exhausts, the increasing hole in the atmospheric ozone layer, the rivers that are poisoned with industrial and agricultural chemi-

cals, the forests that are felled and vast forest territories that are devastated by fire and acid rains.

Besides, armed conflicts and local wars add to the critical situation on the planet.

The Earth is just a huge spaceship and mankind is its crew. Can quarrels and killing among the crew be permitted? What will then happen to the spaceship? What will happen to mankind?

If we realize the coming danger, we'll see that we should find solutions to all the problems to survive.

What should be done to change the situation for the better?

- We must change people's attitude towards the environment.
- We should stop the pollution of the air and water.
- We must save more energy and water and try to use other sources of energy (solar and tidal energy of the wind, subterranean hot waters, etc).

- We must protect the ozone layer from harmful industrial products.

- We should prevent animals from extinction.

These and many other steps should be taken already now to make our planet a safer and better place to live in. We, human beings, must act.

II. Выберите правильный вариант ответа на вопросы по тексту.

1. *What problems are the ecologists faced with?*

- a) The ecologists are faced with many problems.
- b) The ecologists are faced with some problems.
- c) The ecologists are faced with a lot of problems – the air, we breath, the water we drink, the food we eat...

2. *How is the population growing?*

- a) The population is growing slowly.
- b) The population is growing very fast.
- c) The population is not growing.

3. *What shall we see if we realize the coming danger?*

- a) We should find solutions to all the problems to survive.
- b) Nothing can be changed.
- c) We shall not change people's attitude towards the environment.

III. Закончите предложения по содержанию прочитанного текста.

4. *Ecology is a science which is concerned with...*

- a) organisms
- b) the environment

- c) the interrelations of organisms and their environment
- 5. *The ecologists are faced with a lot of problems...*
 - a) always b) seldom c) in the modern world
- 6. *The earth is being constantly damaged...*
 - a) in some ways b) in different ways c) in many ways
- 7. *Speaking about the growth of population we have to admit...*
 - a) effects on the environment
 - b) harmful effects on the environment
 - c) useful effects on the environment
- 8. *Our planet is facing...*
 - a) the decreasing consumption of energy and water
 - b) the consumption of energy and water
 - c) the increasing consumption of energy and water

IV. Подберите эквиваленты к данному русскому слову.

- 9. *Наука*
 - a) scientific b) science c) scientist
- 10. *Окружать*
 - a) to concern b) to surround c) to relate
- 11. *Расти*
 - a) to grow b) to construct c) to believe
- 12. *Поддерживать*
 - a) to face b) to damage c) to support
- 13. *Окружающая среда*
 - a) ecology b) environment c) interrelation
- 14. *Загрязнение*
 - a) pollution b) damage c) chimney
- 15. *Из-за*
 - a) because b) because of c) as

V. Выберите русское предложение, наиболее точно передающее содержание предъявленного предложения.

- 16. *The rivers are poisoned with industrial and agricultural chemicals.*
 - a) Реки загрязняются химикатами.
 - b) Реки загрязняются разными химикатами.
 - c) Реки загрязняются промышленными и сельскохозяйственными химикатами.
- 17. *What should be done to change the situation for the better?*
 - a) Что нужно сделать, чтобы изменить положение к лучшему?
 - b) Что делается для изменения положения к лучшему?

- c) Что можно сделать для изменения положения к лучшему?
18. *We must change people's attitude towards the environment.*
- a) Мы можем изменить отношение людей к окружающей среде.
- b) Нам следовало бы изменить отношение людей к окружающей среде.
- c) Мы должны изменить отношение людей к окружающей среде.

VI. Выберите английское предложение, наиболее точно передающее содержание предъявленного предложения.

19. *We should prevent animals from extinction.*
- a) People should protect animals from dying out.
- b) We should prevent animals from existence.
- c) Animals shouldn't be on the brink of extinction.
20. *If we realize the coming danger, we'll see that we should find solutions to all the problems to survive.*
- a) We could find the solutions to all the ecological problems only if we understand the coming danger.
- b) Whether we understand the coming danger, we'll see that we should find solutions to all the problems to survive.
- c) If we had realized the coming danger, we would have seen that we should find solutions to all the problems to survive.
21. *We must protect the ozone layer from harmful industrial products.*
- a) We have to protect the ozone layer from harmful effects of industrial emissions.
- b) We are to prevent the ozone layer from destroying harmful industrial products.
- c) We might protect the ozone layer from harmful industrial products.

VII. Выберите правильную видовременную форму глагола.

22. *Ecology is a science which ... with the interrelations of organisms and their environment.*
- a) was concerned b) will be concerned c) is concerned
23. *There ... about 6 billion people in the world at present.*
- a) is b) was c) are
24. *The population very fast.*
- a) grow b) is growing c) were growing
25. *Scientists believe that in a few decades the population ... too big for the earth to support.*
- a) is b) was c) will be

26. *The Earth ... constantly in different ways.*
a) is being damaged b) were damaged c) damage

VIII. Заполните пропуски правильными модальными глаголами или их эквивалентами

27. *We... to admit the increase of industries.*
a) was b) may c) have
28. *... quarrels and killing among the crew be permitted?*
a) can b) are c) ought
29. *We ... find solutions to all the problems to survive.*
a) should b) have c) are allowed
30. *We ... save more energy and water.*
a) have b) must c) are
31. *We ... prevent animals from extinction.*
a) are able b) have c) should

IX. Заполните пропуски прилагательными в нужной форме.

32. *The Earth is being constantly damaged in ... ways.*
a) more different b) less different c) different
33. *We should make our plant a ... place.*
a) safer b) safest c) best
34. *We should find the ... solution to all the problems to survive.*
a) good b) best c) better

X. Переведите текст (письменно).

There are several cities in Russia which have got the metro at present. The first 11.6km-long line of the Moscow underground, the oldest in our country, went into operation in 1935. Today the total length of the Moscow metro lines is more than 300 km. According to the General Plan for the capital's development another 120 km will be added in the next few years.

If you look at the poster-map of the Moscow metro, you'll see a lot of train lines which run in all directions through the city. You'll also see a ring-road around the centre which connects the most important squares and railway terminals.

In 1955 underground trains started running in St. Petersburg. The first line ran from the north to the south of the city and crossed the Neva under the bottom of the deep river waters. Unlike the Moscow metro trains which go not only under ground but also over ground, St. Petersburg trains all run in the deep tunnels. Today the length of the four main lines is more than 100 km. Over two million passengers are carried by this fast transport daily.

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I семестр

Вариант 4

I. Прочтите и переведите текст (устно).

CARBON DIOXIDE EMISSION

Some gases in the atmosphere allow visible light to pass through, but they block much of the heat which is reflected from the Earth's surface – in the same way as the glass windows in a greenhouse. Without this greenhouse effect, temperatures in the world could be lower by 35 degrees Celsius, most of the oceans would freeze, and life would cease or be totally changed. According to the theory of global warming, an increase in greenhouse gases in the atmosphere will produce too high temperature increases.

Aside from water vapour, the main greenhouse gases are carbon dioxide, methane, nitrous oxide. Of these, carbon dioxide is the most important.

The most dramatic consequence of the warming would be a rise in the sea level from the melting of polar ice and glaciers, a rise that the Environmental Protection Agency projects to be 20 feet in the year 2300. And the large parts of territories along sea and ocean coasts will be under water.

Scientists don't think that mankind alone is responsible for the melting of glaciers and the rise of sea levels up to 25 centimetres this century. But we have created conditions that accelerate the process.

The majority of climatologists feel that a risk of global warming exists, although there is much disagreement about the extent and timing. At the 1992 United Nations Conference on the Environment and Development, more than 150 countries signed the Convention on the Climate Change for the control of emissions of greenhouse gases.

In the early 1990s, the United States produced 23 per cent of global emission, Western Europe 14 per cent, Japan 5 per cent and China 12 per cent. Although emissions have grown much for the past 40 years, they began levelling off in the late 1980s and the early 1990s.

In December 1997 about 160 nations took part in the conference in Japan which was to limit emission of carbon dioxide and other greenhouse gases in the future.

II. Выберите правильный вариант ответа на вопросы по тексту.

1. *What is the cause of the greenhouse effect?*
 - a) high temperatures
 - b) water vapour
 - c) greenhouse gases
2. *What will an increase in greenhouse gases in the atmosphere result in?*
 - a) temperature increases
 - b) temperature decreases
 - c) ocean freezing
3. *What is the point of view of many scientists concerning the consequences of increasing greenhouse gases in the atmosphere?*
 - a) smog
 - b) eternal summer
 - c) melting of polar ice

III. Закончите предложение по содержанию прочитанного текста.

4. *Without this greenhouse effect temperatures in the world would ...*
 - a) be higher
 - b) be lower
 - c) be lower by 35 degrees Celsius
5. *The majority of scientists think that a risk of global warming ...*
 - a) doesn't exist
 - b) is being reduced steadily
 - c) exists
6. *The participants of the United Nations Conference signed the Convention ...*
 - a) on using only electric energy
 - b) on the control of emissions of greenhouse gases

- c) on creating conditions that accelerate the process of global warming
7. *During the last years emissions began ...*
 a) decreasing b) increasing c) levelling off
8. *Without greenhouse effect life ...*
 a) would be better
 b) would be impossible
 c) would become worse

IV. Подберите эквивалент к данному русскому слову.

9. *Разрешать, позволять*
 a) allow b) provide c) admit
10. *Теплый*
 a) warming b) heat c) warm
11. *Принимать участие*
 a) participant b) part c) take part
12. *Существовать*
 a) live b) exist c) extent
13. *Развитие*
 a) develop b) development c) developing
14. *Ускорение*
 a) accelerate b) acceleration c) accelerator
15. *Производить*
 a) producer b) produce c) production

V. Выберите русское предложение, наиболее точно передающее содержание предъявленного предложения.

16. *The worst consequence of the warming would be a rise in the sea level.*
 a) Последствием потепления будет повышение уровня моря.
 b) Самым ужасным последствием потепления было бы повышение уровня моря.
 c) Уровень моря повысился бы как результат потепления.
17. *The majority of climatologists feel that a risk of global warming exists.*
 a) Большинству климатологов ясно, что существует риск глобального потепления.
 b) Климатологи предполагают глобальное потепление.
 c) Глобальное потепление возможно.
18. *Large parts of territories along sea and ocean coasts will be under water.*
 a) Будут затоплены большие территории.

- b) Большие участки территорий, расположенных на побережье морей и океанов, будут затоплены.
- c) Есть опасность затопления побережья морей и океанов.

VI. Выберите английское предложение, наиболее точно передающее содержание предъявленного предложения.

19. *Some gases in the atmosphere allow visible light to pass through, but they block much of the heat which is reflected from the Earth's surface.*
- a) Visible light can pass through some gases in the atmosphere but these gases block much of the heat which is reflected from Earth's surface.
 - b) Visible light cannot pass through some gases which block heat from Earth's surface.
 - c) Some gases in the atmosphere allow visible light to pass through.
20. *Although emissions have grown much for the past 40 years, they began levelling off in the late 1980s.*
- a) Emissions leveled off in the late 1980s.
 - b) Emissions have increased considerably for the past 40 years but they began levelling off in the late 1980s.
 - c) Emissions have a tendency towards increasing for the past 40 years.
21. *In 1997, 160 nations took part in the conference in Japan which was to limit emissions of greenhouse gases.*
- a) All countries in the world take part in conferences dedicated to the problems of limiting emissions of greenhouse gases.
 - b) The conference in which 160 nations took part was held in Japan in 1997.
 - c) The conference in Japan, which was held in 1997, was dedicated to the problem of limiting emissions of greenhouse gases.

VII. Выберите правильную видовременную форму глагола.

22. *People ... conditions for the melting of glaciers.*
- a) are created b) have created c) are going to create
23. *In some years large territories ... under water.*
- a) are b) were c) will be

24. *In 1992 the United Nations Conference on the Environment and Development ...*
 a) will be held b) holds c) was held
25. *Some years ago about 160 nations ... part in the conference.*
 a) take b) have taken c) took
26. *Some experts ... that it is practically impossible to protect the big cities from pollution.*
 a) are considered b) consider c) considers

VIII. Заполните пропуски соответствующими модальными глаголами или их эквивалентами.

27. *Visible light ... pass through some gases in the atmosphere.*
 a) must b) can c) has to
28. *People ... think about their future.*
 a) ought b) needn't c) must
29. *I ... to read the text «Carbon Dioxide Emission».*
 a) could b) should c) had
30. *You ... know the words to understand the text.*
 a) should b) ought c) may
31. *The conference ... to be held in Japan.*
 a) must b) was c) can

IX. Заполните пропуски прилагательными в нужной форме.

32. *Of these three gases carbon dioxide is ...*
 a) most important b) importanter c) the most important
33. *At present the air and water pollution is ... than it was some years ago.*
 a) bad b) the worst c) worse
34. *Water pollution has become a ... problem for many British rivers.*
 a) serious b) more serious c) the most serious

X. Переведите текст (письменно).

Chemistry is the science of substances – of their structure, their properties and their reactions that change them into other substances. This is a very large field of study because the number of different kinds of substances is very great, and each kind has its own characteristic qualities. Chemistry occupies the central position among the basic sciences. It is closely connected with physics and biology. It plays an important part in the development of geology and physiology, and enters every industry as well as medicine and agriculture.

The early chemists studied two types of matter: inorganic and organic. But the materials which are provided by nature cannot satisfy

modern science and technology now and man is turning more and more to the help of chemistry.

Контрольная работа № 1
по английскому языку
для студентов заочного отделения, обучающихся
по всем техническим направлениям и специальностям
I семестр

Вариант 5

I. Прочитайте и переведите текст (устно).

A GREAT INVENTION OF A GREAT SCIENTIST

Radio occupies one of the leading places among the greatest achievements of modern engineering. It was invented by Professor A. S. Popov, the talented Russian scientist, who demonstrated the first radio-receiving set in the world on May 7, 1895. And it is on this day that we mark the anniversary of the radio.

By this invention Popov made a priceless contribution to the development of the world science.

Nearly at the same time an Italian inventor G. Marconi, who moved to Great Britain in 1896, got an English patent on using electromagnetic waves for communication without wires. As A.S. Popov had not patented his invention by that time yet, the world considered Marconi to be the inventor of the radio. But in our country it is A.S. Popov who we by right call the inventor of radio.

A.S. Popov was born in the Urals on March 16, 1859. For some years he had been studying at the seminary in Perm and then went to the University of St. Petersburg. In his student days he worked as a mechanic at one of the first electric power-plants in St. Petersburg which was producing electric lights for Nevsky prospect.

After graduating from the University in 1882, A.S. Popov remained there as a post-graduate at the Physics Department. A year later he became a lecturer on Physics and Electrical Engineering in Kronstadt. By that time he had already won recognition among specialists as an authority in this field.

After Hertz had published his experiments proving the existence of electromagnetic waves, A.S. Popov thought of a possibility of using Hertz waves for transmitting signals over a distance. Thus the first wireless (radio) receiving set was created. Then Popov developed his device and on March 24, 1896 he demonstrated the transmission and reception of a radiogram consisting of two words: Heinrich Hertz. On that day the radio-telegraphy was converted from an abstract theoretical problem into a real fact. A.S. Popov did not live to see the great progress of his invention.

Popov's invention laid the foundation for further inventions and improvements in the field of radio engineering. Since that time, scientists all over the world have been developing the modern system of radio-telegraphy, broadcasting, television, radiolocation, radio navigation and other branches of radio electronics.

II. Выберите правильный вариант ответа на вопрос.

1. *Why did the world consider Marconi to be the inventor of radio?*
 - a) because he got an English patent on using electromagnetic waves for communication without wire connection
 - b) because A.S. Popov had not patented his invention by that time yet
 - c) because Marconi demonstrated the transmission and reception of radiograms
2. *Why do we mark the anniversary of the radio birth on May 7?*
 - a) because A.S. Popov demonstrated the first radio-receiving set in the world on May 7, 1895
 - b) because A.S. Popov patented his invention that day
 - c) because A.S. Popov demonstrated the transmission and reception of a radio telegram this day
3. *What results of the experiment did Hertz publish?*
 - a) the experiments connected with the waves usage for transmitting signals over a distance
 - b) the experiments proving the existence of electromagnetic waves
 - c) the experiments on the transmission and reception of radiograms

III. Закончите предложения по содержанию текста.

4. *In his student's days A.S. Popov worked as*
a) a driver b) a mechanic c) an engineer
5. *A.S. Popov had not patented ...yet.*
a) his discovery b) his invention c) his creation
6. *By that time the world considered Marconi*
a) the greatest physicist
b) the inventor of radio
c) the inventor of radio-telegraphy
7. *The talented Russian scientist A.S. Popov demonstrated the first radio-receiving set in the world*
a) in the 19th century b) on May 7, 1895 c) on March 8, 1896
8. *He worked as a mechanic at*
a) the plant
b) one of the first electric power plants
c) the power station

IV. Подберите эквивалент к данному русскому слову.

9. *Изобретение*
a) invent b) inventor c) invention
10. *Развитие*
a) developed b) development c) developing
11. *Производство*
a) producer b) production c) productive
12. *Использование*
a) user b) use c) used
13. *Создание*
a) creator b) creation c) created
14. *Ученый*
a) science b) scientific c) scientist
15. *Техника*
a) engineer b) engineering c) engine

V. Выберите русское предложение, наиболее точно передающее содержание предъявленного предложения.

16. *Popov's invention laid the foundation for further improvement in the field of radio-engineering.*
a) Изобретение Попова связано с дальнейшим усовершенствованием в области радиотехники.
b) Изобретение Попова заложило основы для дальнейших усовершенствований в области радиотехники.
c) Изобретение Попова будет иметь большое значение для дальнейших изобретений в области радиотехники.

17. *Nearly at the same time an Italian inventor Marconi got an English patent on using electromagnetic waves for communication without wires.*

- a) Итальянский ученый изобрел радио.
- b) В то же время итальянский изобретатель Маркони получил английский патент на использование электромагнитных волн для передачи сообщения без проводов.
- c) Маркони использовал волны для передачи сигналов на расстояние.

18. *A.S. Popov thought of a possibility of using waves for transmitting signals over a distance.*

- a) А.С. Попов демонстрировал передачу и прием радиogramм.
- b) А.С. Попов использовал радиоволны для передачи на расстояние.
- c) А.С. Попов думал о возможности использования радиоволны для передачи сигналов на расстояние.

VI. Выберите английское предложение, наиболее точно передающее содержание предъявленного предложения.

19. *Popov's invention laid the foundation for further inventions in the field of radio engineering.*

- a) By his invention A.S. Popov made a priceless contribution to the development of world science.
- b) Popov's laid the foundation for the invention of television.
- c) A.S. Popov made a great contribution to the development of radio.

20. *The talented Russian scientist demonstrated the first radio receiving set in the world on May 7, 1895.*

- a) The talented Russian scientist A.S. Popov created the first wireless receiving set.
- b) The talented Russian scientist A.S. Popov invented radiotelegraphy.
- c) The talented Russian scientist A.S. Popov invented radio on May 7, 1895.

21. *A.S. Popov has won recognition among specialists in the field of radio-engineering.*

- a) In our country A.S. Popov, by right, is called the inventor of radio.
- b) Popov's invention laid the foundation for further inventions in the field of radio-engineering.

- c) Since Popov's invention scientists all over the world have been developing modern systems of radio-telegraphy, broadcasting, television and etc.

VII. Выберите правильную видовременную форму глагола.

22. *Radio ... one of the leading places in modern engineering.*
a) occupied b) will occupy c) occupies
23. *Radio ... by A.S. Popov.*
a) invents b) invented c) was invented
24. *As A.S. Popov ... his invention by that time yet, the world considered Marcony to be the inventor of radio.*
a) didn't patent b) doesn't patent c) hadn't patented
25. *For some years he ... at the seminary.*
a) had been studying b) studies c) studied
26. *The first receiver set ... by Popov.*
a) creates b) created c) was created

VIII. Заполните пропуски правильными модальными глаголами и их эквивалентами.

27. *The scientist...patent his invention.*
a) was to b) must c) had to
28. *He ... the first radio-receiving set.*
a) may demonstrate b) had to demonstrate c) can demonstrate
29. *His experiments ... the existence of electromagnetic waves.*
a) may prove b) were able to prove c) were to prove
30. *In student's days A.S. Popov ... as a mechanic at one of the first electric power-plants.*
a) must work b) can work c) had to work
31. *A.S. Popov ... his device.*
a) can develop b) must develop c) had to develop

IX. Заполните пропуски прилагательными в нужной форме.

32. *Radio occupies one of the leading places among ... achievements of modern engineering .*
a) greater b) the greatest c) great
33. *A.S. Popov is one of ... Russian scientists.*
a) talented b) more talented c) the most talented
34. *A.S. Popov didn't live to see ... progress of his invention.*
a) greater b) the greatest c) the great

X. Переведите текст (письменно).

There are several scales for measuring temperature. On the Centigrade scale the boiling point of water is fixed at 100° (one hundred degrees), its freezing point is at 0° (zero). The equivalent points on the Fahrenheit scale are at 212° and 32° .

When it is necessary to convert temperature readings from the Fahrenheit scale to the Centigrade, we subtract 32 and multiply by $5/9$.

Sometimes scientists use the Absolute scale (Kelvin) in which the temperature is measured in degrees Centigrade from the point at which molecular motion ceases. Absolute zero is -273.1°C .

The instruments measuring temperature, the thermometers, are nearly identical but each has a different scale. Most thermometers use mercury as an agent and we call them mercury thermometers. But at the temperatures below -39°C mercury freezes and becomes a solid. And so for measuring very high and very low temperatures we use electrical thermometers.

Контрольная работа № 2
по английскому языку
для студентов заочного отделения, обучающихся
по всем техническим направлениям и специальностям
II семестр

Вариант 1

I. Прочитайте и переведите текст (устно).

SIMULATING – A NEW WAY OF CREATING MATERIALS

Mankind waited for bronze quite a long time. But when it arrived, it brought a revolution that changed civilization for ever. Then came iron with its hard edge for swords and, later still, steel brought the Industrial Revolution. During the 20th century the pace quickened, in less than a hundred years several entirely new classes of material appeared and quite new ones will certainly make an impression on the 21st century.

Until recently, most new materials were discovered by complete accident, or by trial and error. The latter strategy involves taking a few metals, mixing them together in certain ratios and watching what comes out. The process of studying a material's behavior under pressure, at high and low temperature, in and out of magnetic and electric fields and in countless other conditions can take years or decades.

But all this can soon change. Recent advances in mathematics and computing are making it possible to simulate the properties of materials. This approach entirely changes the whole idea of materials testing. What's more, the work that used to take years can now be done for months. The simulations begin with rules of quantum mechanics that govern matter on the atomic and subatomic level.

Huge increases in computing power have made the simulations possible and recent developments of mathematical methods are making complex calculations much easier. Thanks to new techniques of research the number of calculations needed to solve large number of problems has fallen.

Where the simulations work, they bring a great change to materials development. Thanks to this new simulation technology the 21st century will get new materials in quantities that had never been heard before.

II. Выберите правильный вариант ответа на вопросы к тексту.

1. *What material brought the Industrial Revolution?*
a) bronze b) iron c) steel
2. *How were most new materials discovered until recently?*
a) by experience b) by trial and error c) by special program
3. *What are recent advances in mathematics and computing making it possible to do?*
a) to study a material's behavior under pressure
b) to make a new discovery
c) to simulate the properties of materials

III. Закончите предложения по содержанию прочитанного текста.

4. *When bronze arrived it brought*
a) a new discovery in the electric and magnetic fields
b) a revolution that changed civilization for ever
c) a new simulation technology
5. *Most new materials were discovered*
a) by complete accident
b) at high temperatures
c) by rules of quantum mechanics
6. *To simulate the properties of materials is possible thanks to*
a) recent advances in physics and chemistry
b) recent advances in agriculture and biology
c) recent advances in mathematics and computing
7. *The simulations begin*
a) with new techniques of research
b) with rules of quantum mechanics
c) with complex calculations
8. *Where the simulations work they bring a great change*
a) to materials development
b) to the properties of materials

c) to quantum mechanics

IV. Подберите эквивалент к данному русскому слову.

- | | | | |
|------------------|----------------|---------------|----------------|
| 9. Включать | a) involve | b) involved | c) involvement |
| 10. Впечатление | a) impress | b) impression | c) impressive |
| 11. Открывать | a) discovered | b) discover | c) discovery |
| 12. Моделировать | a) simulation | b) simulated | c) simulate |
| 13. Возможный | a) possibility | b) possible | c) possibly |
| 14. Свойство | a) property | b) proper | c) properly |
| 15. Полностью | a) entire | b) entirely | c) entirety |

V. Выберите русское предложение, наиболее точно передающее содержание предъявленного предложения.

16. *This approach entirely changes the whole idea of materials testing.*
a) Этот подход полностью меняет всю идею тестирования материалов.
b) Идея провести тестирование полностью изменила подход к материалам.
c) Идея о тестировании материалов была полностью отвергнута.
17. *The work that used to take years can now be done for months.*
a) Работа, которую нужно было сделать за месяц, потребовала годы.
b) Год и месяц потребовались, чтобы проделать эту работу.
c) Работа, на которую обычно требовались годы, теперь делается за месяцы.
18. *When bronze arrived, it brought a revolution that changed civilization for ever.*
a) Появление бронзы революционно изменило цивилизацию навсегда.
b) Государство изменило производство бронзы после революции.

- с) Появление бронзы привело к революции, которая изменила цивилизацию навсегда.

VI. Выберите английское предложение, наиболее точно передающее содержание предъявленного предложения.

19. *The process of studying a materials behavior under pressure, at high and low temperatures, in and out of magnetic and electric field and in countless other conditions can take years or decades.*
a) It will take less than a year to study a materials behavior under pressure.
b) Only a decade will be required to study a materials behavior under pressure at high and low temperatures.
c) Perhaps, several years will be necessary for studying a materials behavior in and out of magnetic and electric field.
20. *During the 20th century the pace quickened, in less than a hundred years several entirely new classes of materials appeared and quite new ones will certainly make an impression on the 21st century.*
a) New classes of materials will appear during the 21st century.
b) New classes of materials were used in the 20th century.
c) During the 20th century the process of appearing new classes of materials slowed down.
21. *Huge increase in computing power has made the simulations possible and recent developments of mathematical methods are making complex calculations much easier.*
a) It became possible to simulate new materials thanks to increasing in computing power.
b) The decrease in computing power has made the simulation possible.
c) The researches in quantum mechanics are making complex calculations much easier.

VII. Выберите правильную неличную форму глагола.

22. *The new method ... by this team of scientists is very progressive.*
a) used b) using c) to use
23. *The group of scientists ... this research is in the laboratory now.*
a) performing b) performed c) to perform
24. *... the material's behavior under pressure changes the whole idea of material testing.*
a) studying b) studied c) to be studied

25. *The simulations are known ... a great change to materials development.*
 a) bringing b) brought c) to bring
26. *This new method was the last ... in the last century.*
 a) applying b) to apply c) to be applied

VIII. Определите функцию неличной формы глагола.

27. *To study this method is extremely important for the development of science.*
 a) подлежащее b) определение c) часть сказуемого
28. *The process of studying the material behavior under pressure can take years or decades.*
 a) подлежащее b) определение c) часть сказуемого
29. *When arrived, bronze brought a revolution that changed civilization for ever.*
 a) подлежащее b) определение c) обстоятельство
30. *We need methods simulating the properties of materials.*
 a) подлежащее b) определение c) обстоятельство

IX. Выберите правильную форму условного предложения.

31. *If we ... the research, we ... the properties of materials long ago.*
 a) complete, will simulate
 b) completed, would simulate
 c) had completed, would have simulated
32. *If the simulations ..., they ... a great change to materials development in future.*
 a) work...will bring
 b) worked ... brought
 c) had worked, would have brought
33. *... the research of new methods ..., the new classes of materials ... nowadays.*
 a) be ... completed, will appear
 b) were ... completed, would appear
 c) had ... been completed, would have been appeared.
34. *The scientist wished this method ... in simulating new materials.*
 a) were used
 b) used
 c) use
35. *If recent advances in mathematics and computing ... it possible to simulate the properties of materials now, this approach ... the whole idea of materials testing.*

- a) make...will change
- b) made...would change
- c) had made...would have changed

X. Переведите текст (письменно).

The development of a number of industries is unthinkable without materials with special properties. Powder metallurgy helps to obtain such materials.

The operational principle of powder metallurgy is very well known – an article of necessary size is modelled, in a mould, out of very small metal grains and is put into an electrothermic furnace where the grains get sintered together.

The coefficient of metal utilization grows by five times and the time of operation of powder articles increases greatly. The sintered articles have already shown their advantages in outer space, under the deep sea conditions and inside various machines. The antivibration alloys of the “iron-copper” type made it possible to double the life of drilling tools. This increased the labour productivity by 20 per cent.

Контрольная работа № 2
по английскому языку
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II семестр

Вариант 2

I. Прочитайте и переведите текст (устно).

MARIE CURIE AND THE DISCOVERY OF RADIUM

Marie Curie was born in Warsaw on November 7, 1867. Her father was a teacher of science and mathematics in a school, and it was from him that little Marie Sklodowska (her Polish name) learned her first lesson of science.

In 1891 she went to Paris to continue her studies at the Sorbonne. She determined to work for two Master's degrees – one in physics, the other in mathematics. Yet she had scarcely enough money to live on. She studied night after night after her hard day's work at the University. She chose her course and nothing could turn her from it.

Among the many scientists whom Marie met and worked with in Paris was Pierre Curie. When he met Marie he was 35 years old and was famous throughout Europe for his discoveries in magnetism.

Pierre Curie and Marie, both of whom loved science more than anything else, very soon became the closest friends. After a little more than a year Marie became Madame Curie.

At that time she had already had her Master's degree in physics and mathematics and was busy in researches on steel. She wished to

obtain a Doctor's degree. Pierre and Marie Curie were greatly interested in the work of the French scientist Becquerel. There is a rare metal uranium which, as Becquerel discovered, emits rays very much like X-rays. The Curies wanted to discover the mystery of the rays of uranium. What caused them? How strong were they?

The research was carried out under great difficulties. Marie Curie had to use an old store-room at the University as her laboratory. There was no proper apparatus and very little space for research work. But she had to make the best of it.

Besides uranium Marie Curie began to examine every known chemical substance. She repeated her experiments time after time and found that one mineral emitted much more powerful rays than uranium. So she could only decide that this mineral must contain a new element. It was a mystery. This seemed unthinkable. Scientists declared that every element was already known to them. However, all Marie's experiments proved that the mineral contained a new and unknown element. There was no other explanation for the powerful rays which it emitted. Scientists call the property of giving out such rays "radioactivity", and Marie decided to call the new element "radium".

II. Выберите правильный вариант ответа на вопросы к тексту.

1. *Why did Marie go to Paris?*
 - a) to discover the mystery of the rays of uranium
 - b) to continue her studies
 - c) to begin her research
2. *What was the result of her numerous experiments?*
 - a) She discovered the mystery of the rays of uranium.
 - b) She found that one mineral emitted much more powerful rays than uranium.
 - c) She proved that the mineral contained some new elements.
3. *Why did little Marie learn her first lessons from her father?*
 - a) because he was a teacher
 - b) because she was a clever girl
 - c) because there were no schools in the suburbs of Warsaw

III. Закончите предложения по содержанию прочитанного текста.

4. *Pierre and Marie Curie were greatly interested*
 - a) in researches
 - b) in X-rays

- c) in the work of the French scientist Becquerel
- 5. *There was no proper apparatus and very little space*
 - a) for laboratory experiments
 - b) for research work
 - c) for scientific work
- 6. *Pierre Curie was famous throughout Europe*
 - a) for his discovery of X-rays
 - b) for his discovery in magnetism
 - c) for his discovery of uranium
- 7. *In 1891 Marie went to Paris*
 - a) to discover the mystery of the rays of uranium
 - b) to obtain Doctor's degree
 - c) to continue her studies
- 8. *Besides uranium Marie Curie began to examine*
 - a) X-rays
 - b) the rays of uranium
 - c) every known chemical substance

IV. Подберите эквивалент к данному русскому слову.

- | | | | |
|-------------------------|---------------|----------------|----------------|
| 9. <i>Содержать</i> | a) container | b) contain | c) contained |
| 10. <i>Повторять</i> | a) repetition | b) repeat | c) repeated |
| 11. <i>Открытие</i> | a) discover | b) discovering | c) discovery |
| 12. <i>Излучение</i> | a) emit | b) emitter | c) emission |
| 13. <i>Исследование</i> | a) research | b) researcher | c) researching |
| 14. <i>Объяснение</i> | a) explain | b) explanation | c) explained |
| 15. <i>Выбор</i> | a) choose | b) choice | c) chosen |

V. Выберите русское предложение, наиболее точно передающее содержание предъявленного предложения.

- 16. *In 1891 she went to Paris to continue her studies at the Sorbonne.*
 - a) В 1891 она поехала в Париж, чтобы получить степень доктора наук.
 - b) В 1891 она поехала в Париж, чтобы получить степень магистра.

- c) В 1891 она поехала в Париж, чтобы продолжить учебу в Сорбонне.
17. *Pierre and Marie Curie were greatly interested in the work of the French scientist Becquerel.*
- a) Пьер и Мари Кюри очень интересовались открытием тайны лучей урана.
 - b) Пьер и Мари Кюри очень интересовались тем, что вызывает эти лучи.
 - c) Пьер и Мари Кюри очень интересовались работой французского ученого Беккереля.
18. *All Maria's experiments proved that the mineral contained some new and unknown element.*
- a) Все эксперименты Марии доказали, что минерал содержит новый и неизвестный элемент.
 - b) Все эксперименты Марии доказали, что один минерал испускает более мощные лучи, чем уран.
 - c) Все эксперименты Марии объяснили природу мощных испускаемых лучей.

VI. Выберите английское предложение, наиболее точно передающее содержание предъявленного предложения.

19. *The Curies wanted to discover the mystery of the rays of uranium.*
- a) The Curies were greatly interested in the rays of uranium.
 - b) The Curies discovered that uranium emitted rays.
 - c) The Curies discovered the rays very much like X-rays.
20. *Marie found that one mineral emitted much more powerful rays than uranium.*
- a) Marie proved that the mineral contained a new and unknown element.
 - b) Marie explained the nature of the powerful rays.
 - c) Marie discovered that there were minerals besides uranium that emitted the rays.
21. *Scientists call the property to giving out such rays "radioactivity".*
- a) Scientists call these powerful rays "X-rays".
 - b) Scientists call the new element "radium".
 - c) Scientists call the ability of giving out rays "radioactivity".

VII. Выберите правильную неличную форму глагола.

22. *She continued ... at the Sorbonne.*

- a) studied b) study c) studying

23. *They were interested in ... the mystery of these rays.*
 a) discovering b) discovered c) to discover
24. *Marie Curie began ... every known chemical substance.*
 a) to examine b) being examined c) examined
25. *She was busy in ...research on steel.*
 a) doing b) done c) having done
26. *Scientists called the property of ... such rays "radioactivity".*
 a) to give out b) giving out c) given out

VIII. Определите функцию неличной формы глагола.

27. *She determined to work for two Master's degrees – one in physics, the other in mathematics.*
 a) определение b) дополнение c) обстоятельство
28. *Having repeated the experiments, Marie Curie found that one mineral emitted much more powerful rays than uranium.*
 a) обстоятельство b) определение c) подлежащее
29. *The discovery made by Marie Curie won world recognition.*
 a) часть сказуемого b) определение c) обстоятельство
30. *Marie Curie decided to call the new element "radium".*
 a) дополнение b) часть сказуемого c) обстоятельство

IX. Выберите правильную форму условного предложения.

31. *If her father ... a teacher, she ... her first lesson from him.*
 a) were, learn
 b) had been, would have learned
 c) was, will learn
32. *If Linda ... to Paris to continue her studies, she ... surely ... a scientist.*
 a) went, will become
 b) don't go, won't become
 c) goes, will become
33. *If she ... her experiments time after time, she ... her discovery.*
 a) repeated, would make
 b) had repeated, would make
 c) didn't repeat, make
34. *If she ... to obtain a Master's degree, she ... hard.*
 a) decides, would work
 b) decided, would work
 c) had decided, would worked
35. *If she ... in the problem, she ... a discovery.*
 a) were interested, would make

- b) interested, will make
- c) had interested, would be made

X. Переведите текст (письменно).

Holographic techniques, that can record both the phase and amplitude of the light reflected by an object, can be used to generate a true three-dimensional image. Holograms were originally demonstrated by Dennis Gabor in the late 1940s, but significant interest and application of holography did not occur until the 1960s when a convenient source of radiation, in the form of laser, became available.

During the past three decades, several types of interferometric holography have been demonstrated, each having advantages of specific devices for measurements. The technique has been used in applications that include the inspection of aircraft components, the measurement of shrinkage in concrete structures, etc. In each case, a holographic interferometer can show dimensional changes that are difficult to detect with the help of other kinds of techniques. Several types of holographic devices are used for research and quality control, the holograms being produced by a number of different methods.

Контрольная работа № 2
по английскому языку
для студентов заочного отделения, обучающихся
по всем техническим направлениям и специальностям
II семестр

Вариант 3

I. Прочтите и переведите текст (устно).

IN SEARCH OF NEW SOURCES OF ENERGY

Two concrete blocks at the bottom of sea off the north coast of Scotland are all that is left of the world's first attempt to build a commercial wave-power plant.

When the large yellow 2-megawatt generator was wrecked by waves that were meant to power it, hope died. But the dream of using wave power to generate endless "clean" electricity hasn't faded.

Wave power is not easy to obtain. Researchers had a number of other devices ready to be tested in the water. They learnt lessons from the power plant mentioned above which was wrecked, just as they had from other disappointments. They revised their designs and created new ones. Today, the prospects for wave power have never looked better. For the first time, independent analysts think that electricity, which could be produced from wave power will cost less than that produced from new nuclear and coal-fired stations.

At least 15 wave-power generators are planned across the globe: nine in Europe, four in the Far East, one in the US and one in India,

eight of them will have produced energy by 2000. All are robust, realistic designs, shaped by years of trial and error.

Some international experts on wave power think it could supply more than 10 per cent of the world's electricity and help to solve the problem of drinking water shortages by desalinating sea water. Inspired by this prospect, researchers in Britain have been in the vanguard of wave power research.

II. Выберите правильный вариант ответа на вопросы к тексту.

1. *What was the result of wrecking the first large generator?*
 - a) Researches had revised their designs and created new ones.
 - b) Wave power research has been stopped.
 - c) The problem of shortages of drinking water has been solved.
2. *Where are wave – power generators planned to be built?*
 - a) nowhere
 - b) only in Europe
 - c) in Europe, in the Far East, in the USA and in India
3. *What do the experts think about producing energy by means of wave – power generator?*
 - a) It will help to solve the problem of drinking water shortages.
 - b) The dream of endless “clear” electricity faded.
 - c) It will bring no use.

III. Закончите предложения по содержанию прочитанного теста.

4. *Researchers had a number of other devices*
 - a) not really ready to be tested in the water
 - b) almost ready to be used in the air
 - c) ready to be tested in the water
5. *For the first time independent analysts think that*
 - a) the dream of using wave-power is unrealizable
 - b) electricity from wave-power will cost less than that of new nuclear and coal-fired stations
 - c) wave-power plants will pollute the water.
6. *When the power plant was wrecked the researchers*
 - a) decided that there was no hope for realizing their idea
 - b) revised their designs and created new ones
 - c) repeated their errors again
7. *At least 15 wave-power generators*
 - a) are planned across the globe
 - b) were built near the Atlantic ocean

- c) will be used on the largest rivers
- 8. *Researchers in Britain*
 - a) don't support the ideas of wave-power plants
 - b) have built the world's first wave-power plant
 - c) have been in the vanguard of wave-power research

IV. Подберите эквивалент к данному русскому слову.

- 9. *Энергия морской волны*
 - a) wave power
 - b) wave length
 - c) wave oscillation
- 10. *Бесконечный*
 - a) ending
 - b) endless
 - c) end
- 11. *Разочарование*
 - a) appointment
 - b) disappoint
 - c) disappointment
- 12. *Независимый*
 - a) depend
 - b) independence
 - c) independent
- 13. *Электричество*
 - a) electricity
 - b) electrification
 - c) electrician
- 14. *Исследователь*
 - a) researcher
 - b) research
 - c) researches
- 15. *Генератор*
 - a) generation
 - b) generator
 - c) generate

V. Выберите русское предложение, наиболее точно передающее содержание предъявленного предложения.

- 16. *When the large yellow 2-megawatt generator was wrecked by waves that were meant to power it, hope died.*
 - a) Когда большой генератор мощностью 2 мегаватта был разрушен волнами, которые должны были привести его в действие, надежда умерла.
 - b) Когда большой – 2 мегаватта – генератор сгорел из-за перенапряжения, надежда растаяла.
 - c) Когда волны, которые должны были запустить генератор, разрушили его, надежда все же осталась.
- 17. *They learnt lessons from the power plant mentioned above which was wrecked, just as they had from other disappointments.*
 - a) Они учились на опыте с электростанцией, которая была упомянута выше, и поэтому испытали много разочарований.
 - b) Они извлекли урок из ситуации с разрушенной электростанцией, упомянутой выше, так же как и из других перенесенных разочарований.

- с) Они учились на ошибках, совершенных ранее, как, например, в случае со сломанной электростанцией.
18. *Today, the prospects for wave power have never looked better.*
- a) На сегодняшний день проекты энергии волн выглядят наилучшим образом.
- b) Проекты силовых волн сегодня как никогда хороши.
- с) Планы, связанные с использованием энергии волн, никогда не выглядели более обнадеживающим, чем сейчас.

VI. Выберите английское предложение, наиболее точно передающее содержание предъявленного предложения.

19. *But the dream of using wave-power to generate endless "clean" electricity hasn't faded.*
- a) But the hope of creating the electric power generator disappeared.
- b) It's still urgent to dream of using tidal power to produce endless electricity being harmless for the environment.
- с) The hope of using water-wave energy as a source of electricity has faded.
20. *Wave-power is not easily obtained.*
- a) Wave power is a many-sided thing.
- b) To generate power with the help of water waves is easy.
- с) It's difficult to obtain wave power.
21. *All are robust realistic designs shaped by years of trial and error.*
- a) All having been thought out projects for a period of tests and faults.
- b) It takes not too much time and work to put into practice robust realistic designs.
- с) All designs were not tested at all.

VII. Выберите правильную неличную форму глагола.

22. *But the dream of ... wave power remained actual.*
- a) having used b) having been used c) using
23. *He noted that the rocket would be the only man-made instrument able ... space.*
- a) to reach b) to have reached c) reaching
24. *Those who are occupied with ... science fiction are doing good work.*
- a) writing b) having been written c) having written
25. *We shall not let it*
- a) to die b) die c) dying

26. ... by this prospect? researchers in Britain have headed wave power research.
a) having inspired b) to inspire c) inspired

VIII. Определите функцию неличной формы глагола.

27. *It is useless to discuss this question.*
a) подлежащее b) часть сказуемого c) дополнение
28. *To generate electricity by these conventional methods is highly uneconomical.*
a) подлежащее b) дополнение c) определение
29. *He was born with the gift of winning hearts.*
a) обстоятельство b) определение c) сказуемое
30. *Being built with great skill and care the station has been used by people for centuries.*
a) обстоятельство b) определение c) часть сказуемого

IX. Выберите правильную форму условного предложения.

31. *The accident ... if you ... more attentive.*
a) will not happen, were
b) wouldn't happen, had been
c) wouldn't have happened, had been
32. *Even though they ... how difficult the situation was, they ... the preparations.*
a) knew, will not stop
b) knew, wouldn't stop
c) know, wouldn't have stopped
33. *How ... you ... this problem if you ... to deal with it?*
a) would ... solve, had
b) will ... solve, had
c) would ... have solved, had
34. *If we ... a taxi we ... the train.*
a) didn't find, would missed
b) will not find, miss
c) don't find, will miss
35. *But for my sister's help I ... to translate the article so fast.*
a) wouldn't manage
b) didn't manage
c) wouldn't have managed

X. Переведите текст (письменно).

Scientists consider hydrogen a very promising energy source. The reserves of hydrogen are practically unlimited. Per unit of weight it

contains almost three times more thermal energy than benzene. Besides, hydrogen can be used as fuel in transport, industry and home.

Hydrogen is easy to transport and store. It can be transported over large distances using conventional pipelines. It can be accumulated and kept for a long time either in conventional or natural reservoirs.

Scientists have found many ways of producing hydrogen – basically from ordinary water. And large volumes of this fuel can be obtained from coal, whose global reserves are tremendous. There is also an idea of using nuclear plants to generate hydrogen. Scientists hope to use the energy of the sun, wind and tides to obtain hydrogen.

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II семестр

Вариант 4

I. Прочитайте и переведите текст (устно).

TSIOLKOVSKY'S DREAM NEARS REALIZATION

The young man spent hours over ideas he had put down in a schoolboy's notebook. In a home-made machine he made lots of experiments to see how living things withstood the effects of gravity and acceleration. The date was 1879, in the small Russian village near Ryazan. Konstantin Tsiolkovsky was 22, waiting for a post of a schoolmaster.

The problem which he worked at was interplanetary travel. Though Tsiolkovsky began a long career as a teacher of mathematics soon, man's penetration into space remained his life-long study.

In 1883 he noted that the rocket would be the only man-made instrument able to reach space. The prediction was published only in 1954, when his collected works were printed by the Soviet Academy of Sciences.

The mathematical terms of space travel were worked out by Tsiolkovsky as early as 1895 in a manuscript "The Exploration of Cosmic Space by Reaction-Propelled Apparatus". When it was published in

1903, Tsiolkovsky won immediate international recognition, especially among the pioneers of aviation science.

In order to get money for his researches Tsiolkovsky tried to publish his book "Outside the Earth" in 1916, in which he described the imaginary flight of a manned rocket ship in orbit round the earth.

It was only in 1920 that the book was published and it fired the imagination of other scientists in our country as well as abroad. In 1929 when Tsiolkovsky was 72, Professor Herman Obert, a German scientist, wrote to him: "You kindled this fire. We shall not let it die. It is necessary that the man's greatest dream should be realized."

In the book "Outside the Earth" Tsiolkovsky assembled a group of famous scientists in an imaginary mountain laboratory: Galileo, Newton, Laplace, Helmholtz, Franklin and a modest Russian named Ivanov. At their disposal is an army of the world's best engineers and technicians. The year is 2017.

Together the scientists work out the theories of cosmic flight. They test rockets and fuels, discuss ways of living aboard a rocket, and design a 300-ton spaceship. The voyage that follows is described very vividly. Some of the details of this imaginary flight you have seen in reality on your own TV screen — weightless objects floating around a cosmonaut, the black sky of space, the blast-off of a man-carrying rocket.

In 1935 Tsiolkovsky wrote "All who are occupied with writing science fiction are doing good work; they excite interest, promote the working of the brain and bring into being people who will work on grand projects in the future."

II. Выберите правильный вариант ответа на вопросы к тексту.

1. *When did Tsiolkovsky notice that the rocket would be the only man-made instrument able to reach space?*
a) in 1903 b) in 1883 c) in 1895
2. *When was the book "Outside the Earth" published?*
a) in 1920 b) in 1916 c) in 1929
3. *When do the events of his book take place?*
a) in 2000 b) in 2017 c) in 1999

III. Закончите предложения по содержанию прочитанного текста.

4. *The problem which he worked at was....*
a) gravitation b) interplanetary travel c) weightlessness
5. *In the book "Outside the Earth" Tsiolkovsky....*

- a) described flights into space
- b) assembled a group of famous scientists in an imaginary mountain laboratory
- c) described laws of gravitation
- 6. *Together the scientists work out....*
 - a) laws of gravitation
 - b) theories of cosmic flight
 - c) theories of magnetism
- 7. *In a home-made machine Tsiolkovsky....*
 - a) constructed a rocket
 - b) wrote his book
 - c) made lots of experiments
- 8. *When his book was published Tsiolkovsky....*
 - a) received a grant
 - b) won immediate recognition
 - c) flew into space

IV. Подберите эквивалент к данному русскому слову.

- | | | | |
|-------------------------|----------------|-----------------|-----------------|
| 9. <i>Проникновение</i> | a) penetrate | b) penetration | c) penetrative |
| 10. <i>Признание</i> | a) recognition | b) recognize | c) recognizable |
| 11. <i>Воображение</i> | a) imaginative | b) imagine | c) imagination |
| 12. <i>Распоряжение</i> | a) dispose | b) disposal | c) disposable |
| 13. <i>Полет</i> | a) flight | b) fly | c) flier |
| 14. <i>Ускорение</i> | a) accelerate | b) accelerating | c) acceleration |
| 15. <i>Вымысел</i> | a) fiction | b) fictional | c) fictionist |

V. Выберите русское предложение, наиболее точно передающее содержание предъявленного предложения.

16. *Though Tsiolkovsky began a long career as a teacher of mathematics soon, man's penetration into space remained his life-long study.*
- a) Хотя Циолковский вскоре начал продолжительную карьеру учителя математики, освоение человеком космоса по-прежнему оставалось проблемой, интересовавшей его всю жизнь.

- b) Несмотря на то, что Циолковский вскоре начал долгую карьеру учителя математики, он по-прежнему на протяжении всей жизни изучал освоение человеком космоса.
 - c) Несмотря на начавшуюся карьеру учителя математики, Циолковский по-прежнему изучал проникновение человека в космос.
17. *It was only in 1920 that the book was published and it fired the imagination of other scientists in our country as well as abroad.*
- a) Только в 1920 г книга была опубликована, и она вдохновила многих ученых как в нашей стране, так и за границей.
 - b) После того как книга была опубликована в 1920 г, возросший интерес к ней был не только в нашей стране, но и за границей.
 - c) Книга вдохновила ученых как в нашей стране, так и за границей после того, как она была опубликована в 1920 году.
18. *When it was published in 1903, Tsiolkovsky won immediate recognition especially among the pioneers of aviation science.*
- a) Когда она была опубликована, Циолковский был признан лучшим специалистом по авиации 1903 года.
 - b) Когда рукопись была опубликована в 1903 году, Циолковский получил признание, особенно среди пионеров авиации.
 - c) Благодаря книге Циолковского, опубликованной в 1903 году, теория авиации получила признание как наука.

VI. Выберите английское предложение, наиболее точно передающее содержание предъявленного предложения.

19. *In order to get money for his researches Tsiolkovsky tried to publish his book "Outside the Earth" in 1916, in which he described the imaginary flight of a manned rocket ship in orbit round the earth.*
- a) In his book "Outside the Earth" Tsiolkovsky described the flight of a rocket around the Earth.
 - b) Tsiolkovsky earned a large sum of money for publishing his book "Outside the Earth".
 - c) Tsiolkovsky tried to publish his book "Outside the Earth" in which he described the flight of a rocket on the orbit of the Earth in order to get some money.
20. *It was only in 1920 that the book was published and it fired the imagination of other scientists in our country as well as abroad.*
- a) When the book was published it had a great success among the scientists.

- b) The book was published only in 1920.
 - c) The book was very popular among the scientists of our country and abroad in 1920.
21. *Those who write science fiction are doing good work; they excite interest, promote the working of the brain, and bring into being people who will work on the grand projects in the future.*
- a) Science fiction excites people.
 - b) Science fiction writers create exciting stories encouraging people's imagination to work for the benefit of mankind.
 - c) Great projects promote a lot of great work.

VII. Выберите правильную неличную форму глагола.

22. *... from the expedition he wrote a book about Central Africa.*
- a) to return b) returning c) having returned
23. *Would you like ... to the party?*
- a) going b) to go c) gone
24. *She would not mind John ... here.*
- a) smoking b) to smoke c) smoke
25. *John hates ... people like that.*
- a) to treat b) treating c) having treated
26. *He approved of your ... us.*
- a) joining b) to join c) having joined

VIII. Определите функцию неличной формы глагола.

27. *Entering her room that evening? she found a packet for herself on the dressing table.*
- a) дополнение b) обстоятельство c) подлежащее
28. *I was on my way to the club to look for you.*
- a) определение b) подлежащее c) обстоятельство
29. *Learning rules without examples is useless.*
- a) дополнение b) подлежащее c) определение
30. *I gave up smoking.*
- a) дополнение
 - b) часть составного сказуемого
 - c) обстоятельство

IX. Выберите правильную форму условного предложения.

31. *If I ... you tomorrow, I ... you in the evening.*
- a) did not see, would call
 - b) do not see, will call
 - c) did not have seen, would not have called
32. *I do not know the answer. If I ... the answer, I ... you.*

- a) know, will tell
 - b) knew , would tell
 - c) have known, would have told
33. *If you ... here that day, you ... part in a competition.*
- a) had been , would have taken
 - b) were, would take
 - c) are, would take
34. *If the weather ... fine, we ... to the country.*
- a) was, should go
 - b) was, shall go
 - c) is, shall go
35. *If you ... so absent-minded you ... the key.*
- a) will not, would not forget
 - b) would not, do not forget
 - c) were not, would not forget

X. Переведите текст (письменно).

It's interesting to know...

...that Alfred Nobel, Swedish chemist and engineer, was known for the invention of dynamite. Everything that he invented served military purposes. He understood how terrible his inventions were, but he easily forgot about them saying: "The things which we develop are terrible indeed, but they are so interesting and so perfect technically that it makes them more attractive."

But one morning, while looking through a French newspaper Nobel read about... his own death. The paper described his inventions as "terrible means of destruction" and he was named "a dynamite king" and "a merchant of death". The thought that his name would always be connected with dynamite and death shook Nobel. He felt he could never be happy again. He decided to use all his money (about 2,000,000 pounds) for some noble purpose.

According to his will, prizes for "the most outstanding achievements" in physics, chemistry, medicine, physiology, literature and fight for peace are awarded every year. Nobel prizes have become the highest international scientific awards. Perhaps it's an irony of life that some of Nobel prize winners helped to make the atom bomb.

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II семестр

Вариант 5

I. Прочтите и переведите текст (устно).

SIBERIAN OIL GIANT

Until Surgut's vast oil reserves began to be exploited in the late 70s, the territory bordering the river Ob saw only Khanti tribes, that camped on patches of dry land and survived on fish and berries. Now Surgut is a town of 260,000 people, most of whom work for one of the Russia's biggest oil companies.

At the time when production is collapsing at other oil companies, during the financial crisis, they manage to have stable, low-cost production and look much better positioned than most competitors in the field of oil production. Today Surgut is the Russian oil industry's lowest-cost profitable producer.

Most investments go toward improving existing oil fields, rather than making new ones. The company has invested much in horizontal drilling which can increase fivefold the flow of an old well. Half of the horizontal wells worked out in Russia at the end of the 20th century are drilled in Surgut. Millions have already been invested in roads, power lines and pipelines in the area. Analysts recognize Surgut's power and say it is the best oil company in Russia today.

But the labour conditions are rather hard in Surgut. In Canada, drilling platforms are enclosed in concrete walls, which enable the workers to be protected from cold. In Surgut, which is situated near the Arctic Circle, the platforms are open, and at temperatures of minus 50 degrees, the eyes of the workers are sometimes shut with freeze.

But most people in Surgut are true Siberians who don't want to live and work anywhere else.

II. Выберите правильный вариант ответа на вопросы по тексту.

1. *What is Surgut famous for?*
a) coal b) its oil company c) mining
2. *When did they start exploiting Surgut's oil reserves?*
a) a century ago b) recently c) in the late 70s
3. *What place does Surgut oil company take among other Russia's oil companies?*
a) the first place b) the second place c) the last place

III. Закончите предложения по содержанию прочитанного текста.

4. *Many inhabitants of Surgut work*
a) at the plant b) in the fields c) for the best oil company
5. *Most investments go toward*
a) improving existing oil fields
b) expanding oil fields
c) making new oil fields
6. *The company has invested much in*
a) improving living conditions
b) horizontal drilling
c) creating better conditions for workers
7. *The labour conditions are rather*
a) good b) hard c) satisfactory
8. *In Surgut drilling platforms*
a) are enclosed in concrete walls
b) are protected from cold
c) are open

IV. Подберите эквиваленты к данному русскому слову.

9. *Производитель*
a) production b) producer c) produce

- | | | | |
|-------------------|---------------|----------------|---------------|
| 10. Улучшение | a) improve | b) improvement | c) improving |
| 11. Защита | a) protection | b) protect | c) protected |
| 12. Существовать | a) existence | b) exit | c) exist |
| 13. Удаваться | a) manager | b) manage | c) management |
| 14. Инвестировать | a) invest | b) investor | c) investment |
| 15. Бурить | a) drill | b) drilling | c) drilled |

V. Выберите русское предложение, наиболее точно передающее содержание предъявленного предложения.

16. *Until Surgut's vast oil reserves began to be exploited, the territory was inhabited only by Khanti tribes.*
- a) До тех пор пока не начались разработки нефтяных месторождений в Сургуте, территорию населяли только племена хантов.
 - b) Ханты населяли территорию, где сейчас идет добыча нефти.
 - c) В конце 70-х годов в Сургуте начали бурить нефтяные скважины.
17. *At the time when oil production is collapsing at other oil companies during the financial crisis Surgut remains the best oil company in Russia.*
- a) Во время кризиса добыча нефти сокращается во многих компаниях.
 - b) В то время как во время кризиса производство нефти падает в других нефтяных компаниях, Сургут остается лучшей нефтяной компанией России.
 - c) Многие нефтяные компании сокращают добычу нефти, но Сургут остается лучшей нефтяной компанией России.
18. *Most investments go toward improving existing oil fields.*
- a) Большая часть инвестиций направлена на улучшение существующих нефтяных месторождений.
 - b) Инвестиции улучшают нефтяные месторождения.
 - c) Нужно вкладывать много денег, чтобы улучшить нефтяные месторождения.

VI. Выберите английское предложение, наиболее точно передающее содержание предъявленного предложения.

19. *Khanti tribes camped on the territory bordering the river Ob and survived on fish and berries.*

- a) Khanti tribes lived on patches of dry land.
- b) Only Khanti tribes could begin exploiting vast oil reserves.
- c) Until the late 70s only Khanti tribes lived on the territory bordering the river Ob. Their main food was fish and berries.

20. *At present Surgut's oil company has stable low-cost production.*

- a) Today Surgut's oil company looks much better positioned than most competitors in the field of oil production.
- b) The oil company in Surgut can't have stable low-cost production.
- c) The oil company can improve its position.

21. *In Canada drilling platforms are enclosed in concrete walls which enable the workers to be protected from cold.*

- a) In Canada drilling platforms are open.
- b) In Canada drilling platforms are not open.
- c) In Canada the oil workers are protected from cold because of concrete walls which enclose drilling platforms.

VII. Выберите правильную неличную форму глагола.

22. *Most investments go toward ... existing oil fields.*

- a) to improve b) having improved c) improving

23. *... at the best oil company you should go to Surgut.*

- a) working b) to work c) worked

24. *All the people ... for the oil company live in Surgut.*

- a) to have worked b) having worked c) working

25. *The company ... much in horizontal drilling is the best in Russia.*

- a) investing b) being invested c) to invest

26. *Their aim is ... better conditions for workers.*

- a) to create b) creating c) having created

VIII. Определите функции неличных форм глагола.

27. *They began exploiting Surgut's oil reserves at the end of the 70s.*

- a) дополнение b) часть сказуемого c) обстоятельство

28. *Until the late 70s only Khanti Tribes lived on the territory bordering the river Ob.*

- a) обстоятельство b) дополнение c) определение

29. *You should think of improving working conditions.*

- a) дополнение b) обстоятельство c) определение

30. To translate the text “Siberian oil giant” I had to use a dictionary.

- a) дополнение b) подлежащие c) обстоятельство

IX. Выберите правильную форму условного предложения.

31. *If you ... the Grammar material, you ... so many mistakes in the test yesterday.*

- a) knew, would not make
b) know, will not make
c) had known, would not have made

32. *If there ... no oil reserves in Surgut, there... no oil company.*

- a) was, would
b) are, would have been
c) were, would be

33. *If he... to Surgut in 1990, we*

- a) had not come, would not have met
b) will not come, would not meet
c) did not come, would met

34. *If I ... an oil worker? I ... for the oil company in Surgut.*

- a) was, worked
b) had been, would worked
c) were, would work

35. *If I ... you, I ... at English regularly.*

- a) will be, will work
b) was, work
c) were, would work

X. Переведите текст (письменно).

Mikhail Lomonosov, a famous Russian scientist, once said that the increase of Russia's power would come from Siberia. That these words said more than 200 years ago were true is quite evident today. Siberia is extremely rich in natural resources, and the potential of Siberian power generation is truly unique: cheap coal and powerful rivers are in abundance there. One of the main objectives of the programme of Siberia development is to transform the region into the major national fuel and energy base.

Among the strategic ways for accelerating economic growth of Siberia was the Baikal-Amur Railway, known as BAM, and the development of the lands around it. The construction of the BAM main line was completed in 1984. Great difficulties had to be overcome during the construction of the railway. It runs through the taiga, huge marshes and rivers. Though the BAM main line lies in approximately

the same latitude as Moscow, Copenhagen and Glasgow, winter here lasts for eight months with temperatures down to – 60°C and snow up to one metre deep.

ПРИЛОЖЕНИЕ

ОБРАЗЦЫ УСТНЫХ ТЕМ

MEET MY FAMILY

Our family is not large: Father, Mother, my wife and me. I'll start with myself. My name is Victor Petrov. I was born² in Novgorod. When I was 16 years old our family moved to St. Petersburg. At the age³ of 18 after leaving school I served in the army for two years. When I returned from the army I started to work. I'm married.⁴ My wife's name is Helen. She studies at a medical college, she is going to⁵ become a medical nurse in two years.

My father's name is Andrew. He is an architect. He is 45. He is a very good specialist in his line.⁶ My mother's name is Julia. She is about 40 years old, but looks much younger. She's tall and slender. With her dark hair and brown eyes she looks very attractive, besides she is always well-dressed. She wears glasses because she is short-sighted. She works as a teacher at a technical college. My parents are very busy people, but they find time for theatre, exhibitions and of course for their friends.

We live in a modern block of flats. There are three rooms in our flat: a dining room, two bedrooms, a kitchen, a bathroom and a toilet. Our flat has all modern conveniences – gas, central heating, cold and hot running water and a telephone.

We are a friendly family.

Notes on the Text

1. **meet** v – 1. встречать; 2. знакомиться **Meet my family** — Познакомьтесь с моей семьей.

2. **be born** – родиться
3. **at the age of ...** – в возрасте ...
4. **be married** – быть женатым, быть замужем; **get married** – жениться, выйти замуж;
be single – быть холостым (незамужней)
5. **be going to + глагол** – собираться, намереваться что-л. делать
6. **in his line** – в своей области

Words to Be Learnt

start <i>v</i> – начинать	find <i>v</i> – найти, находить
leave <i>v</i> – уезжать, покидать; зд. закончить (школу)	of course <i>adv</i> – конечно
serve <i>v</i> – служить	block of flats <i>n</i> – многоквартирный дом
for <i>prep.</i> 1. для; 2. за; 3. в течение	flat <i>n</i> – квартира
plant <i>n</i> – 1. завод; 2. растение	dining room <i>n</i> – столовая
study <i>v</i> – учиться, изучать	bedroom <i>n</i> – спальня
become <i>v</i> – стать, становиться	kitchen <i>n</i> – кухня
look <i>v</i> – 1. смотреть; 2. выглядеть	bathroom <i>n</i> – ванная комната
besides <i>adv</i> – кроме того	convenience <i>n</i> – удобство
because <i>conj</i> – так как	central heating <i>n</i> – центральное отопление
busy <i>a</i> – занятый	running water <i>n</i> – водопровод

Members of the Family and Other Relatives (Члены семьи и другие родственники)

parents – родители	grandmother – бабушка
mother – мать	grandfather – дедушка
father – отец	grandson – внук
wife – жена	granddaughter – внучка
husband – муж	aunt – тетя
son – сын	uncle – дядя
daughter – дочь	nephew – племянник
brother – брат	niece – племянница
sister – сестра	cousin – двоюродный брат или сестра

Names of Professions

actor (actress) – актер (актриса) **mechanic** – механик

architect – архитектор
artist (= painter) – художник
businessman – бизнесмен
clerk – служащий
cleaner – уборщик, уборщица
driver – водитель
economist – экономист
engineer – инженер
librarian – библиотекарь
manager – управляющий

policeman – полицейский
reporter – корреспондент, репортер
scientist – ученый
shop assistant – продавец
teacher – преподаватель
typist – машинистка
waiter – официант
worker – рабочий
writer – писатель

DAILY PROGRAMME

Now I am going to tell you a few things about myself. As you already know, my wife, Helen, studies at a medical college and is going to become a medical nurse. I study too, but not in the daytime as Helen does. I am an evening student. Last year I entered the Extramural Polytechnical Institute.¹

If you think that it is easy to work in the daytime and to study in the evening at the same time, you are mistaken.² It takes a lot of effort.³ I have my hands full the whole week.⁴

On weekdays the alarm-clock wakes me up at 6.30. I jump out of bed, open the window and do my morning gymnastics, then I go to the bathroom, take a shower, shave, clean my teeth and brush my hair. After that I go to my bedroom to get dressed.

I don't spend much time on my breakfast, I have time only for a cup of coffee and a sandwich or two. While having breakfast, I listen to the latest news on the radio.

I leave the house at 7.30 and go to the nearest underground station. It takes me an hour and a half to get to work⁵.

I arrive at work at ten minutes to nine though my working day begins at 9 sharp to get everything ready. I work from 9 in the morning to 5 in the afternoon with an hour's break from 1 to 2 o'clock for lunch.

Three times a week, on Monday, Wednesday and Friday I have lectures, classes and lab work at the Institute. So after work I hurry to the Institute.

After classes I come home and have supper. In the evening I usually watch TV, read newspapers or talk to my wife. I go to bed at 12 o'clock.

On Sunday, when I have my day off, I get up a little later and in the evening I go to the theatre, to the Philharmonic, if there is a good concert, or I stay at home and read some favourite book.

Notes on the Text

1. **Extramural Polytechnical Institute** – заочный политехнический институт
2. **you are mistaken** – вы ошибаетесь (заблуждаетесь)
3. **It takes a lot of effort** – Это требует больших усилий.
4. **I have my hands full the whole week.** – У меня вся неделя занята.
5. **It takes me an hour and a half to** + *глагол* – мне требуется полтора часа, чтобы

Words and Expressions to Be Learnt

study <i>v</i> – заниматься, учиться	clean one's teeth – чистить зубы
part-time student <i>n</i> – студент вечернего отделения	brush <i>v</i> – причесываться
be mistaken <i>v</i> – ошибаться	have breakfast (lunch, dinner, supper) <i>v</i> – завтракать (обедать, ужинать)
wake up <i>v</i> – просыпаться	latest news <i>n</i> – последние новости
alarm clock <i>n</i> – будильник	it takes me – мне требуется
get up <i>v</i> – вставать	sandwich <i>n</i> – сэндвич, бутерброд
do one's morning exercises – делать утреннюю зарядку	arrive <i>v</i> – прибывать
get one's morning shower – принимать утренний душ	message <i>n</i> – сообщение
shave <i>v</i> – бриться	go to bed – ложиться спать

Days of the Week

Sunday, Monday, Tuesday, Wednesday, Thursday, Friday, Saturday.

NOVOSIBIRSK STATE TECHNICAL UNIVERSITY (NSTU)

Founded in 1953, NSTU gained its status of a technical university in 1992. It is one of the top ten technical universities in Russia and a large scientific and educational centre of Siberia and the Far East.

NSTU trains specialists and offers additional training in 35 areas and 10 faculties: Automation and Computer Engineering; Radio Engineering, Electronics, and Physics; Physical Engineering; Applied Mathematics and Informatics; Electromechanics; Mechanics and

Technology; Aircraft; Business; Power Engineering; and Humanities.

The period of study is 4 – 6 years, depending on the qualification as follows: Bachelor of Science – 4 years, Engineer – 5 years, Master of Science – 6 years. M.Sc. students are awarded M.Sc. degree in Engineering after defending their Master's theses in the corresponding fields of study. Postgraduate students are offered a 3-year programme of study and research leading to Candidate of Science degree in Engineering.

Graduates from school of Russia are awarded diplomas in management. Tuition for Russian citizens is free.

The number of students at NSTU is more than 13000 (including foreign students), 140 post-graduates and doctoral candidates. The number of academic staff is 1080, of which 697 hold Cand.Sc. or D.Sc. qualifications. They work and study in 61 departments.

The direction of scientific research corresponds to the individual areas of specialization of the faculties. The university has its own schools of thought. The most famous of these deal with fundamental research in the following directions: automatic control; creating a new class of measuring facilities; software and data for expert systems; increase in stability; economy and quality of large-scale power systems; new types of electronic and radio engineering devices; hybrid methods and program complexes aimed at the strength of the design and reliability of the calculations and so on.

The students actively participate in all types of scientific research. The university publishes a journal "NSTU Bulletin", scientific works, textbooks, monographs, and teaching manuals. Candidates and Doctors of Science are conferred by 11 specialist councils.

The university participates in the following international programs: TACIS, TEMPUS, INTAS, etc. It has established relations with 12 universities in Europe, Asia, and America. Authorized training centres of leading firms from the USA and Germany, e.g. Sun, DEC, Autodesk, Motorola, and AEG have been opened.

The university has 7 teachings blocks. Its research laboratories are equipped with modern facilities. The campus includes 7 student hostels, a sport centre with a swimming pool and a ski centre. The university has sports camps in the picturesque Altai Mountains and in the suburbs of Novosibirsk.

The Rector of the University Professor Anatoly S. Vostrikov is an academician of the Russian Engineering Academy, a member of the New York Academy of Science, the Russian Federation State

Committee for Education. Professor Vostrikov is a distinguished specialist in the field of automatic control. He has created a school of thought in this field. Professor Vostrikov is the author of 150 scientific articles, monographs, textbooks, teaching manuals, he has pioneered 37 inventions. He is the editor-in-chief of the scientific journal "NSTU Bulletin". He has supervised 23 researchers who were subsequently conferred Cand.Sc. and D.Sc. degrees. Professor Vostrikov took office in 1990. He continues the tradition initiated by Professor Georgi P. Lyshchinsky, the former rector of NSTU, to keep the university on the leading edge of teaching and research in engineering, a place where students and academic staff are justifiably proud to work and learn.

Basic Vocabulary

automation and computer engineering	– автоматика и вычислительная техника
radio engineering	– радиотехника, радиотехнический
physical engineering	– физико-технический
applied mathematics and informatics / information science / computer science	– прикладная математика и информатика
electromechanics	– электромеханика
aircraft	– летательный аппарат
power engineering	– энергетика
humanities	– гуманитарные науки
Bachelor of Science (B.Sc./B.S.)	– бакалавр (естественных) наук
Master of Science (M.Sc./M.S.)	– магистр (естественных) наук
Engineer's degree	– степень дипломированного специалиста-инженера, присваиваемая после пяти / пяти с половиной лет обучения в университете
Candidate of Science (Cand.Sc.)	– кандидат наук
Doctor of Science (D.Sc.)	– доктор наук
teaching block	– учебный корпус
campus	– студгородок
automatic control	– автоматическое управление

OUR COUNTRY

The total area of Russia is a little more than 17 million square kilometres. The population is about 160 million people. The capital of Russia is Moscow.

The greater part of the territory of Russia is vast plains with low mountain ranges and long rivers. The Urals divide Russia into the European and Asian parts.

The Volga and the Ural are the longest rivers in the European part of the country. The longest rivers in the Asian part are the Ob, the Yenisei and the Lena, which flow into the Arctic Ocean. The world's largest inland sea is the Caspian. Lake Baikal is the world's deepest lake.

As Russia is a very large country, its climate is very different. However, we can say that it is mainly continental. The Arctic Ocean influences the weather on a great territory of the country. In some parts of our country winter lasts as long as six months.

The European part of Russia is in the temperate zone with warm or hot summers and rather mild winters.

Our country is very rich in mineral resources, especially it is rich in gas, oil and forests, which are exported to different countries on a large scale¹.

From an agricultural country before the 1917 Revolution our country has become a highly developed industrial and agricultural state. After the Revolution heavy industry has been created; there have appeared such new branches of industry as aviation, machine-building, chemical, automobile and many others. A number of² hydroelectric power stations have been constructed as well.

It is to be noted³ that the first atomic power station in the world began operating in Obninsk near Moscow in 1954, the first atomic ice-breaker in the world was also built in Russia. For a number of years our country played a leading role in the field of space exploration. In 1957, the first artificial satellite (sputnik) in the world was launched by Russia. On the 12th of April we celebrate Cosmonautics Day in the memory of the first space flight carried out by Yuri Gagarin in 1961.

The new political system has brought great changes in all spheres of life in Russia. The Russian Federation is an independent state with a president at the head. The president is elected every four years at general elections.

The political system consists of three branches of power;

1. the legislative branch⁴ is the Parliament that is divided into two houses – the Upper House, that is the Federation Council, and the Lower House, the Duma.

2. the executive branch⁵ is the government with Prime Minister at the head.

3. the judicial branch⁶ headed by the Supreme Court.

There exist a great many political parties and organizations (political as well as social) in our country today.

Notes on the Text

1. **on a large scale** – зд. в больших количествах
2. **a number of** – ряд, несколько
3. **It is to be noted** – Следует отметить
4. **the legislative branch** – законодательная власть (ветвь власти)
5. **the executive branch** – исполнительная власть
6. **the judicial branch** – судебная власть

Words to Be Learnt

total *a* – общий, всеобщий

plain *n* – равнина

influence *v* – влиять; *n* влияние

temperate zone *n* – умеренная зона

create *v* – создавать, творить

carry out *v* – выполнять

elect *v* – избирать

elections *n* – выборы

government *n* – правительство

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