МИНИСТЕРСТВО НАУКИ И ВЫСШЕГО ОБРАЗОВАНИЯ РОССИЙСКОЙ ФЕДЕРАЦИИ ФЕДЕРАЛЬНОЕ ГОСУДАРСТВЕННОЕ АВТОНОМНОЕ ОБРАЗОВАТЕЛЬНОЕ УЧРЕЖДЕНИЕ ВЫСШЕГО ОБРАЗОВАНИЯ

«МУРМАНСКИЙ ГОСУДАРСТВЕННЫЙ ТЕХНИЧЕСКИЙ УНИВЕРСИТЕТ»

(ФГАОУ ВО «МГТУ»)

«ММРК имени И.И. Месяцева» ФГАОУ ВО «МГТУ»

УТВЕРЖДАЮ
Начальник ММРК имени И.И. Месяцева
ФГАОУ ВО «МГТУ»

_____ И.В. Артеменко

«29» мая 2021 года

ФОНД ОЦЕНОЧНЫХ СРЕДСТВ

Учебной дисциплины: Иностранный язык ОГСЭ.04
программы подготовки специалистов среднего звена (ППССЗ)
специальности: 13.02.07 Электроснабжение (по отраслям)
по программе базовой подготовки
форма обучения: очная

Мурманск
2021г.

Рассмотрено и одобрено на заседании методической комиссии преподавателей дисциплины иностранный язык (английский язык) по специальностям, реализуемым ММРК имени И.И. Месяцева.

наименование МКо (МО/ ЦК)

Разработано Федеральным государственным образовательным стандартом среднего (полного) общего образования, утвержденым приказом Минобрнауки России от 17 мая 2012 г. № 413 с изменениями и дополнениями от 29 июня 2017 №613

Председатель МКо (МО/ ЦК)

_____Е.Н.Горшкова

Протокол № _____
от «____» _____ 20___ г.

Автор (составитель) Горшкова Е.Н., преподаватель высшей категории
Ф.И.О., ученая степень, звание, должность, квалиф. категория

Эксперт (рецензент) Баландина И.Ю., преподаватель высшей категории «ММРК имени И.И. Месяцева» ФГБОУ ВО «МГТУ»
Внутренний Ф.И.О., ученая степень, звание, должность, квалиф. категория

Эксперт (рецензент) Кремса А.А., преподаватель высшей категории ГАПОУ МО «Мурманский медицинский колледж»
Внешний Ф.И.О., ученая степень, звание, должность, квалиф. категория
(преподаватель смежных дисциплин (курсов)

1. Общие положения

1.1. Фонд оценочных средств (ФОС) дисциплины Иностранный язык

является составной частью нормативно-методического обеспечения системы оценки качества освоения ППССЗ обучающимися СПО.

1.2. В соответствии с требованиями ФГОС СПО (ФОС) предназначен для аттестации обучающихся на соответствие их персональных достижений поэтапным требованиям соответствующей ППССЗ в форме текущего контроля результатов успеваемости и/или промежуточной аттестации.

1.3. ФОС разработан в соответствии с:

- Федеральным законом от 29.12.2012 N 273-ФЗ "Об образовании в Российской Федерации";
- федеральными государственными образовательными стандартами среднего профессионального образования (ФГОС);
- Приказом Министерства образования и науки № 464 от 14.06.2013 «Об утверждении порядка организации и осуществления образовательной деятельности по образовательным программам среднего профессионального образования» (в редакции Приказа Министерства образования и науки Российской Федерации № 1580 от 15 января 2014 г. и № 31 от 22 января 2014 г.);
- Уставом ФГБОУ ВО «Мурманский государственный технический университет»;
- Положением о текущем контроле успеваемости и промежуточной аттестации обучающихся ФГБОУ ВПО «МГТУ» по образовательным программам СПО;
- Положением о фонде оценочных средств по образовательным программам среднего профессионального образования ФГБОУ ВО «МГТУ»;

рабочим учебным планом по специальности 13.02.07 Энергоснабжение учебной дисциплины Иностранный язык;

2. Паспорт фонда оценочных средств УД Иностранный язык

2.1 ФОС позволяет оценивать **ОК**:

ОК 1. Выбирать способы решения задач профессиональной деятельности применительно к различным контекстам.

ОК 2. Осуществлять поиск, анализ, и интерпретацию информации, необходимой для выполнения задач профессиональной деятельности.

ОК 3. Планировать и реализовывать собственное профессиональное и личностное развитие.ОК 4. Осуществлять поиск и использование информации, необходимой для эффективного выполнения профессиональных задач, профессионального и личностного развития.

ОК 4.Работать в коллективе и в команде, эффективно взаимодействовать с коллегами, руководством, клиентами.

ОК 5.Осуществлять устную и письменную коммуникацию на государственном языке Российской Федерации с учетом особенностей социального и культурного контекста.

ОК 10.Пользоваться профессиональной документацией на государственном и иностранном языках.

2.2 ФОС позволяет оценивать освоение **умений:**

У-1: общаться (устно и письменно) на иностранном языке на профессиональные и повседневные темы;

У-2: переводить (со словарем) иностранные тексты профессиональной направленности;

У-3: самостоятельно совершенствовать устную и письменную речь.

У-4: пополнять словарный запас.

2.3 ФОС позволяет оценивать усвоение **знаний:**

З-1: лексический (1200-1400 лексических единиц) минимум;

З-2: грамматический минимум, необходимый для чтения и перевода (со словарем) иностранных текстов профессиональной направленности.

2. 3. Комплекты контрольно – оценочных средств по видам аттестации

3.1 *Примерное наполнение* КОС/КИМ для **текущего контроля**

Оценочные средства	**Комплекты контрольных заданий или иные материалы, необходимые для оценки знаний, умений, навыков и опыта практической деятельности, характеризующие этапы формирования компетенций**
Фронтальный опрос, беседа	- перечень вопросов; -критерии и шкала оценивания
Орфографический и лексический диктант	- тексты диктантов; -критерии и шкала оценивания
Собеседование	- вопросы и задания для подготовки к собеседованию; -критерии и шкала оценивания ответа обучающегося
Тестирование	- фонд тестовых заданий; - инструкция для обучающихся по выполнению; - критерии и шкала оценивания
Создание устных и письменных высказываний различных стилей и жанров	- вопросы и задания для подготовки к собеседованию; -критерии и шкала оценивания ответа обучающегося
Практическая работа	- комплект заданий по вариантам; -методические указания по выполнению работ; -критерии и шкала оценивания.

3.2 *Примерное наполнение* КОС/КИМ для **промежуточной аттестации**

Форма проведения	**Комплекты контрольных заданий или иные материалы, необходимые для оценки знаний, умений, навыков и опыта практической деятельности, характеризующие этапы формирования компетенций**
дифференцированный зачет	вопросы и задания для подготовки к дифференцированному зачету; - билеты; -критерии и шкала оценивания ответа обучающегося

2.4 Кодификатор оценочных средств

Код ОС	Наименование оценочного средства	Краткая характеристика оценочного средства	Представление оценочного средства в КОС
1	2	3	4
1	Фронтальный опрос, беседа	Средство контроля, организованное как специальная беседа преподавателя с обучающимся на темы, связанные с изучаемой дисциплиной, рассчитанное на выяснение объема знаний обучающегося по определенному разделу, теме, проблеме и т.п. и позволяющее диагностировать глубину знаний обучающихся	Вопросы по темам/ разделам
2	Создание устных и письменных высказываний	Продукт самостоятельной работы обучающегося, представляющий собой краткое изложение в устном и письменном виде полученных результатов теоретического анализа определенной учебной темы	Образец устного ответа
3	Орфографический и лексический диктант	Средство проверки умений применять полученные знания для решения задач определенного типа по теме или разделу.	Тексты диктантов
4	Собеседование	- вопросы и задания для подготовки к собеседованию; -критерии и шкала оценивания ответа обучающегося	Вопросы и задания для для подготовки к собеседованию
5	Тестирование	-фонд тестовых заданий; - инструкция для обучающихся по выполнению; - критерии и шкала оценивания	Фонд тестовых заданий; инструкция для обучающихся по выполнению.
6	Практическая работа	- комплект заданий по вариантам; - Методические указания по выполнению работ; --критерии и шкала оценивания.	Комплект заданий по вариантам

Комплект контрольно-оценочных средств
для текущего контроля

по учебной дисциплине Иностранный язык
(наименования дисциплины)

Составитель _____/Е.Н.Горшкова/
(подпись)

ПРИЛОЖЕНИЕ 1

Перечень вопросов для фронтального опроса

по Разделу 1 «Роль английского языка для подготовки специалиста»

по учебной дисциплине Иностранный язык
(наименование дисциплины)

Составитель _____/Е.Н.Горшкова/
(подпись)

1. Как употребляются определенный и неопределенный артикли? Приведите примеры.
2. Как образуется множественное число имен существительных? Какие исключения Вы знаете?
3. Как образуется притяжательный падеж одушевленных и неодушевленных существительных?
4. Какие личные местоимения Вы знаете? Приведите примеры.
5. Как отличать личные местоимения в объектном падеже от притяжательных местоимений?
6. Как образуются порядковые числительные?
7. Какие степени сравнения прилагательных Вы знаете? Приведите примеры.
8. Проспрягайте глагол to be Present Indefinite Tense.
9. Переведите предложения: «Я - моряк.», «Он был капитаном», «Ты будешь лоцманом» и составьте к каждому из них по четыре вопроса разных типов: общий, альтернативный, специальный и разделительный.
10. Проспрягайте глагол «TO HAVE» в Present Indefinite Tense.
11. Как переводятся предложения с оборотом «THERE IS /ARE»? Приведите примеры.
12. Проспрягайте глагол «TO SAIL» в Present indefinite Tense.
13. На какие группы делятся все глаголы при образовании Past Indefinite Tense?
14. Когда употребляются времена группы CONTINUOUS?
15. Сравните употребление Present Perfect Tense и Past Indefinite Tense?
16. Переведите предложения: «Я был в этом порту», «Я был в этом порту в прошлом году», «Когда Вы были в этом порту?», «Я был в этом порту в этом году».
17. Какие эквиваленты заменяют глаголы «CAN» и «MUST» в прошедшем и будущем временах?
18. В чем различие между действительным и страдательным залогами?

Образец ответа

Артикль- то служебное слово, которое не переводится на русский язык. Существует два вида артиклей: определенный **(the)** и неопределенный (a/an).

A/An употребляется перед существительным в единственном числе и обозначает, то, что существительное является одним из многих других таких же сущ. (неопределенное сущ, незнакомое говорящему). **A/an** употребляется перед названиями профессий. Если сущ. в ед.числе начинается на гласную, то ставится артикль **an,** если сущ. начинается на согласную, то ставится артикль **a. The** употребляется перед конкретным сущ., в единственном и множественном числе. **The** употребляется с сущ., обозначающими предмет, единичный в своем роде. Например: A book, a person, a table, an apple, an eagle, an elephant, a teacher, an engineer. The old book, the old person, the round table. The moon, the earth.

Употребление определенного артикля **the** с именами собственными.

1. Перед именем собственным, обозначающим всю семью: The Browns- семья Браунов
2. перед названиями стран, где есть слова state, republic, union: The Russian Federation. Но: Russia, England и т.д.
3. Перед названиями морей, океанов, рек, заливов, проливов, каналов, горных хребтов, групп островов: The Atlantic Ocean, The Urals
4. Перед названиями судов, поездов, самолетов, гостиниц, музеев, газет, журналов: The Arctica Hotel, The Times
5. Перед названиями сторон света: The North, the South, the East, the West

Артикль не употребляется (нулевой артикль):

1. Перед именами, фамилиями, городами, названиями улиц.
2. Перед абстрактными, неисчисляемыми сущ. (чувства, жидкости ит.д.), если речь не идет о конкретном количестве.
3. Перед сущ., обозначающими титулы, звания, форму обращения.
4. Перед названиями месяцев, времен года.
5. Перед названиями наук.
6. В некоторых устойчивых выражениях с предлогом.

Например: Helen, Murmansk, Shabalina street, this is important information, Mr. Smith, Sunday, May, English.

Множественное число существительных

Существительные в англ.яз. могут быть исчисляемые и неисчисляемые.

Существительные, которые можно посчитать поштучно-исчисляемые. Они могут быть как в единственном, так и во множественном числе.

Существительные, которые нельзя посчитать поштучно-неисчисляемые. Это существительные, обозначающие жидкости, чувства и т.д. Эти существительные употребляются только в единственном числе.

Например news, money, fish, love, friendship и т.д.

1. Для образования множественного числа существительных необходимо прибавить окончание –s(es).

2. Окончание –es прибавляется, если существительное заканчивается на –o, на шипящие или свистящие звуки (-s, ss, x, sh, ch, tch, g), на –y, с предшествующей согласной, которая поменяется на i.

3. Буква f меняется на v, при прибавлении –s(es).

4. В остальных случаях добавляется окончание –S.

5. Исключения в образовании множественного числа:

Единственное число	Множественное число	перевод
man	men	мужчина
woman	women	женщина
child	children	ребенок
goose	geese	гусь
ox	oxen	бык
foot	feet	нога
tooth	teeth	зуб
mouse	mice	мышь

Окончания мн.числа могут произноситься тремя способами [s], [z],[iz]

1. Если сущ.заканчивается на глухую согл.,то окончание произноситься глухо [s], если сущ.заканчивается на звонкую согл.или гласную, то окончание произносится звонко [iz], если сущ.заканчивается на шипящий или свистящий звук, то окончание произносится [iz].

Притяжательный падеж имен существительных.

Притяжательный падеж служит для того, чтобы показать принадлежность одного существительного другому.

Например: машина (кого?) моего друга-My friend’s car.

Зачастую перевод на английский язык будет начинаться с одушествленного сущ., то есть со слова мой друг. Число надо определять по этому же слову.

1. Для образования притяжательного падежа им.сущ. необходимо поставить апостроф (‘).
2. Если сущ. в единственном числе, то апостроф ставится до буквы ‘S.
3. Если сущ. во множественном числе, то апостроф ставится после S’.
4. Если сущ. является исключение при образовании множественного числа, то притяжательный падеж образуется по принципу единственного числа, то есть ‘s.

Исчисляемы и неисчисляемые существительные

1. Исчисляемые существительные могут быть как в единственном, так и во множественном числе.
2. Существительные, обозначающие жидкости, чувства и т.д. –неисчисляемые. Эти существительные употребляются только в единственном числе.

Например: news, money, fish, love, friendship и т.д.

Местоимения

Личные (подлеж.)

Кто? Что?

I - я

He - он

She - она

It - оно (для неодуш.сущ.)

You - ты, вы

We - мы

They – они

Their - их

Притяжательные (с сущ.)

Чей? Чья? Чье?

My -мое

His -его

Her -ее

Its-его, ее (для неодуш.сущ)

Your –твое,ваше

Our - наше

Объектные местоимения

(кому? чему?)-дополнение

Me-мне

Him-ему

Her-ей

It-для неодуш.сущ.

You-тебе, вам

Us-нам

Them-им

Абсолютная форма притяжат.местоимений (без существ.)

Mine-мое

His-его

Hers-ее

Its-для неодуш.

Ours-наше

Yours-ваше, твое

Theirs-их

Указательные местоимения

Ед.ч. мн.ч.

This (это) - these (эти)

That (то) - those (те)

Возвратные местоимения(-ся)

Myself

Himself

Herself

Itself

Yourself (yourselves)

Ourselves

Themselves

Числительные

Количественные

1. One
2. Two
3. Three
4. Four
5. Five
6. Six
7. Seven
8. Eight
9. Nine
10. Ten
11. Eleven
12. Twelve
13. Thirteen
14. Fourteen
12. Fifteen
13. Sixteen
14. Seventeen
15. Eighteen
16. Nineteen
17. Twenty
30. Thirty
50. Fifty
60. Sixty
70. Seventy
80. Eighty
90. Ninety
100. One hundred
200. Two thousand

1,000,000 One million

*Порядковые (the)*First

Second

Third

Fourth

Fifth

Sixth

Seventh

Eighth

Ninth

Tenth

Eleventh

Twelfth

Thirteenth

Fourteenth

Fifteenth

Sixteenth

Seventeenth

Eighteenth

Nineteenth

Twentieth

Thirtieth

Fortieth

Fiftieth

Sixtieth

Seventieth

Eightieth

Ninetieth

One hundredth

One thousandth

One millionth

Даты

1. Года произносятся количественными числительными (по 2 цифры).
2. С 2000 года можно произносить год не по двум цифрам, а через слово thousand.
3. Даты произносятся порядковыми числительными.

Например:

1989 год-nineteen eighty-nine

1800 год- eighteen hundred

2000 год- two thousand

2013- two thousand thirteen

28.04-the twenty-eighth of April

Дробные числительные

1. Числитель произносится количественным числительным, а знаменатель-порядковым числительным.

½ one half

2/3 two thirds

2 ½ two and a half

0.2 [ou] point two

1.93 one point nine three (ninety-three)

Степени сравнения прилагательных

Имя прилагательное-это самостоятельная часть речи, отвечающая на вопрос какой, какая, какое.

1. Существует 3 степени сравнения прилагательных: положительная, сравнительная и превосходная.
2. Существует 3 способа образования степеней сравнения. 1 способ-для односложных и некоторых двусложных прилагательных; 2 способ для многосложных прилагательных; 3 способ-это исключения. (слова, которые надо заучить).

Положительная	Сравнительная (-er)	THE превосходная (-est)
1.Warm Hot Dry	Warmer Hotter Drier	The warmest The hottest The driest
2. interesting	More interesting	The most interesting

3. исключения		
Good-хороший	Better	The best
Bad-плохой	Worse	The worst
Many/much-много	More	The most
Far-далекий	Farther	The farthest
Little-маленький	Less	The least

Правила написания

1. Если прилагательное заканчивается на –y, с предшествующей согласной, то –y меняется на i при прибавлении суффиксов.

2. Если односложное прилагательное заканчивается на одну согласную с предшествующим кратким гласным, то конечная согласная удваивается при прибавлении суффиксов.

Союзы, употребляемые со степенями сравнения.

1. than-чем. Употребляется со сравнительной степенью.

Например. Tis book is more interesting than that book.

2. as…as-такой же как. Употребляется с положительной степенью.

This film is as interesting as that film.

3. not so …as-не такой как. Употребляется с положительной степенью.

This film is not so interesting as that film.

Степени сравнения наречий

1.Существует 3 степени сравнения наречий: положительная, сравнительная и превосходная.

2. Существует 3 способа образования степеней сравнения. 1 способ- для односложных и некоторых двусложных наречий; 2 способ для наречий с суффиксом .-ly; 3 способ-это исключения. (слова, которые надо заучить).

Таким образом, степени сравнения наречий образуются по тем же правилам, что и степени сравнения прилагательных.

положительная	сравнительная	превосходная
hard	harder	The hardest
early	more early/earlier	The most early/the earliest
Исключения Badly-плохо Well-хорошо Much-много	 Worse Better More	 Worst Best Most

Little-мало	less	least

Глагол to be (быть, находиться)

Глагол имеет три формы- am, is, are в настоящем времени, was(were) в прошедшем времени, will be в будущем времени.

Чтобы определить какую форму глагола надо поставить, следует посмотреть на подлежащее (местоимение или существительное). Если подлежащее ед.числа, то употребляется is(was). Если подлежащее во множественном числе, то употребляется are (were). С местоимением I употребляется am (was).

При построении отрицательного предложения добавляется частица not, которая ставится после глагола.

При построении вопросительного предложения меняется порядок слов: Глагол ставится на первом месте.

Время	Повествовательное		Отрицательное			Вопросительное		
настоящее	I He She It We You They	am is is is are are are	I He She It We You They	am is is is are are are	not	Am Is Is Is Are Are Are	I He She It We You They	
прошедшее	I He She It We You They	was was was was were were were	I He She It We You They	was was was was were were were	not	Was Was Was Was Were Were Were	I He She It We You They	
будущее	I He She It We You They	Will be	I He She It We You They	Will not	be	Will	I He She It We You They	be

Например: I am a seaman. He was a Master. You will be a Captain.

Настоящее простое (неопределенное) время

1. Настоящее простое (неопределенное) время употребляется для повествования действий, которые происходят постоянно, регулярно, периодически.

2. Показателем времени являются наречия типа: usually, always, every day, sometimes и т.д.

3. В повествовательном предложении к глаголу добавляется окончание –S(es), если подлежащее выражено местоимениями HE, SHE, IT или существительным в единственном числе. В остальных случаях окончание S(es) не добавляется.

4. В отрицательном предложении добавляется do not и does not после подлежащего (местоимения или существительного). Если подлежащее выражено He, She, It, то используется does not.

5. При образовании вопросительной формы используется DO/DOES, которые ставятся на первое место или после вопросительного слова, если таковое имеется.(What? When? Where?)

Прошедшее простое (неопределенное время)

1. Прошедшее простое время употребляется для обозначения действий, которые произошли в прошлом.
2. Показателями прошлого времени являются такие наречия как yesterday, last year, last week, in 2000 year и т.д.
3. Для образования повествовательного предложения в прошедшем времени необходимо к правильному глаголу добавить окончание –ed, а неправильный глагол изменить на 2 форму (2колонка таблицы неправильных глаголов).
4. Для построения отрицательного предложения необходимо добавить вспомогательный глагол did not, а у смыслового глагола убрать окончание –ed или 2 форму поменять на 1(исходную) форму глагола.
5. При образовании вопросительного предложения на первое место ставится DID, смысловой глагол употребляется в исходной (начальной) форме.

Будущее простое (неопределенное) время

1. Будущее простое время употребляется для обозначения действий, которые произойдут в будущем.

2. Показателями будущего времени являются наречия типа tomorrow, next year, next week и т.д.

3. В будущем простом времени употребляется вспомогательный глагол will для всех лиц и чисел.

4. В отрицательном предложении к will добавляется not=will not (won’t).

5. В вопросительном предложении will ставится на первое место.

Времена группы INDEFINITE (SIMPLE):

Настоящее, прошедшее, будущее

время	повествовательное	отрицательное	вопросительное
Present (настоящее)	I YOU WE love THEY HE SHE loves IT	I YOU WE do not love THEY HE SHE does not love IT	I YOU Do WE love ? THEY HE Does SHE love? IT
Past (прошедшее)	I YOU WE THEY loved HE went (2 ф.) SHE IT	I YOU WE THEY DID NOT love/go HE SHE IT	I YOU WE DID THEY love/go HE SHE IT
Future (будущее)	I YOU WE THEY will love HE SHE IT	I YOU WE THEY will not love SHE HE IT	I YOU WE Will THEY love SHE HE IT

30 самых распространенных неправильных глаголов

Начальная форма глагола (инфинитив)	Прошедшее время (2 форма)	Перевод

be	Was/were	Быть
become	Became	Становиться
begin	Began	Начинать
break	Broke	Ломать
bring	Brought	Приносить
come	Came	Приходить
do	Did	Делать
drive	Drove	Водить (машину)
eat	Ate	Есть
10.feel	Felt	Чувствовать
11.find	Found	Находить
12.get	Got	Получать
13.give	Gave	Давать
14.go	Went	Ходить
15. have	Had	Иметь
16.keep	Kept	Хранить
17.know	Knew	Знать
18.leave	Left	Покидать
19.make	Made	Делать(изготовлять)
20.meet	Met	Встречать
21.read	Read	Читать
22.say	Said	Говорить
23.see	Saw	Видеть
24.send	Sent	Отправлять
25.sit	Sat	Сидеть
26.speak	Spoke	Разговаривать
27.take	Took	Брать
28.think	Thought	Думать
29.understand	Understood	Понимать
30.write	Wrote	писать

Настоящее длительное время.

Present Progressive (Continuous)

1. Употребляется для обозначения действия, которое происходит в момент речи и длится какой-либо период времени.

2. Этот период времени может быть выражен такими словами как now, at this moment и контекстом.

Например: Look! It is raining. Или It is raining now.

3. Построение предложений происходит при помощи глагола be, который не переводится на русский язык и окончания –ing.

Повествовательное	отрицательное	вопросительное
I am + гл.ing	I am not + гл.ing	Am I + гл.ing?
He is + гл ing She is + гл ing It is + гл ing	He is not + гл ing She is not + гл ing It is not + гл ing	Is he + гл ing? Is she + гл ing? Is it + гл ing?
We are +гл ing You are +гл ing They are +гл ing	We are not +гл ing You are not +гл ing They are not +гл ing	Are we +гл ing? Are you +гл ing? Are they +гл ing?

Примечание: Глаголы, выражающие чувства и состояния не употребляются в Present Continuous.

To love-любить

To like- нравиться

To hate- ненавидеть

To want-хотеть

To know-знать

To see-видеть

To hear-слышать

To believe-верить

Прошедшее длительное время

Past Progressive (Continuous)

1. Употребляется для обозначения действия, которое происходило в момент речи в прошлом и длилось какой-либо период времени.

2. Этот период времени может быть выражен такими словами как yesterday at 5 o’clock или зависимым предложением (которое прерывает главное предложение). В этом случае, главное предложение употребляется в

Например: It was raining all day long yesterday. Или he was reading when she came into the room.

3. Построение предложений происходит при помощи глагола be, который не переводится на русский язык и окончания –ing.

Повествовательное	отрицательное	вопросительное
I was + гл.ing	I was not + гл.ing	Was I + гл.ing?
He was + гл ing She was + гл ing It was + гл ing	He was not + гл ing She was not + гл ing It was not + гл ing	Was he + гл ing? Was she + гл ing? Was it + гл ing?
We were +гл ing You were +гл ing They were +гл ing	We were not +гл ing You were not +гл ing They were not +гл ing	Were we +гл ing? Were you +гл ing? Were they +гл ing?

Примечание: Глаголы, выражающие чувства и состояния не употребляются во временах группы Progressive/Continuous.

Модальные глаголы.

1. Модальные глаголы- это особая группа глаголов в английском языке, которые не изменяются по лицам и числам.
2. После модальных глаголов смысловой глагол употребляется без частицы to.

You must not smoke here.

3. Сокращенные формы мод.гл. с частицей not.

Cannot=can’t

May not=

Must not=mustn’t

4. Перевод модальных глаголов:

Can- могу, умею (в физическом и умственном смысле слова)

May –можно, могу (в смысле разрешения), чаще в вопросительных предложениях.

Must- должен, обязан (приказ, обязанность)

1. Построение предложений.

Модальные глаголы строят вопросительные и повествовательные предложения самостоятельно, путем перестановки мод.гл. на первое место и добавлением частицы not на 3 место.

Например: He can swim. Can he swim? He can't (cannot) swim.

Повествовательное		Отрицательное		Вопросительное	
I He She It You They We	Can May + глагол must	I He She It You They We	Can May+not+гл. Must	Can May + Must	I He She+ гл? It You They

Критерии оценки устного ответа

Оценка	Критерии оценки
Оценка «5» (отлично)	Обучающийся владеет знаниями в полном объеме темы, достаточно глубоко осмысливает материал; самостоятельно, в логической последовательности отвечает на вопрос, умеет устанавливать причинно-следственные связи; четко формирует ответ
Оценка «4» (хорошо)	Обучающийся владеет знаниями по теме почти в полном объеме; самостоятельно дает полноценные ответы на вопрос, не всегда выделяет наиболее существенное, но не допускает вместе с тем серьезных ошибок в ответе
Оценка «3» (удовлетворительно)	Обучающийся владеет обязательным объемом знаний по теме; но оперирует неточными формулировками; в процессе ответа допускаются ошибки по существу вопроса. Обучающийся способен решать лишь наиболее легкие задачи, владеет только обязательным минимумом знаний.
Оценка «2» (неудовлетворительно)	Обучающийся не освоил обязательного минимума знаний по теме, не способен ответить на вопросы

ПРИЛОЖЕНИЕ 2

Создание устных и письменных высказываний

по Разделу 1 «Роль английского языка для подготовки специалиста»

по учебной дисциплине Иностранный язык
(наименование дисциплины)

Составитель _____Е.Н.Горшкова
(подпись)

«In a foreign port»

You are a stranger in the town and want to go sightseeing. You may walk or take a bus or a taxi. You may find yourself in different situation. In some countries (the USA, for instance) you get on the front of the bus and pay as you get on. There is no conductor. You should have the exact change as the driver carries no change of tokens. In many countries bus fares depend on the distance. If you want to do shopping you go to a shopping centre. You can find many small shops and big department stores there. In the shop windows you can see many goods with the prices on. So there is no need to drop in at every shop to see what is sold there. Some people prefer department stores because one can buy many different goods there and save time.

Критерии и шкала оценивания устных и письменных высказываний.

Оценка	**Критерии оценки**
Отлично	Коммуникативная задача решена полностью. Высказывание логично, лексика соответствует поставленной задаче, использованы разнообразные грамматические конструкции в соответствии с поставленной задачей и требованиям обучения языку, грамматические ошибки либо отсутствуют, либо не препятствуют решению коммуникативной задачи. Орфографические ошибки отсутствуют, соблюдены правила пунктуации.
Хорошо	Коммуникативная задача решена полностью. Высказывание логично, использованы средства логической связи. Лексика соответствует поставленной задаче и требованиям. Но имеются незначительные ошибки. Использованы разнообразные грамматические конструкции в соответствии с поставленной задачей. Грамматические ошибки незначительно препятствуют решению коммуникативной задачи. Незначительные орфографические ошибки, соблюдены правила пунктуации.
У*довлетворительно*	Коммуникативная задача решена. Высказывание нелогично, неадекватно использованы средства логической связи. Имеются грубые грамматические ошибки и незначительные орфографические ошибки.
Неудовлетворительно	Коммуникативная задача не решена. Высказывание нелогично, неадекватно использованы средства логической связи, формат высказывания не соблюден. Имеются грубые грамматические ошибки.

ПРИЛОЖЕНИЕ 3

Вопросы для собеседования

по Разделу 1 «Роль английского языка для подготовки специалиста»

по учебной дисциплине Иностранный язык
(наименование дисциплины)

Составитель _____/Е.Н.Горшкова/
(подпись)

Вопросы для собеседования

1. Do you like walking?
2. Do you prefer walking or taking a bus if it's a short distance?
3. How do you usually get to your office, port ?
4. How long does it take you to get there?
5. What is the bus fare in a foreign country?
6. How do you pay your fare if there is n conductor on the bus?
7. Do you like to go sightseeing?
8. Do you prefer to do the town by yourself or to have a conducted tour?
9. Do you always listen to the guide?
10. Do you like to take pictures when you're doing the town?
11. Have you ever been to any foreign port?
12. What impressed you most of all?
13. Did you speak English abroad?
14. Did the foreigners understand you?
15. Did you understand the foreigners?
16. Did you go shopping in a foreign port?
17. Did you like to go sightseeing?
18. What places of interest did you visit?
19. Did you make friends abroad?
20. Have you ever been lost in a strange town?
21. Who helped you out?
22. How long did you stay in a foreign port?
23. Are you going to visit foreign countries and foreign ports in future?

Критерии оценки устного ответа

Оценка	Критерии оценки
Оценка «5» (отлично)	Обучающийся владеет знаниями в полном объеме темы, достаточно глубоко осмысливает материал; самостоятельно, в логической последовательности отвечает на вопрос, умеет устанавливать причинно-следственные связи; четко формирует ответ
Оценка «4» (хорошо)	Обучающийся владеет знаниями по теме почти в полном объеме; самостоятельно дает полноценные ответы на вопрос, не всегда выделяет наиболее существенное, но не допускает вместе с тем серьезных ошибок в ответе
Оценка «3» (удовлетворительно)	Обучающийся владеет обязательным объемом знаний по теме; но оперирует неточными формулировками; в процессе ответа допускаются ошибки по существу вопроса. Обучающийся способен решать лишь наиболее легкие задачи, владеет только обязательным минимумом знаний.
Оценка «2»	Обучающийся не освоил обязательного минимума знаний по

(неудовлетворительно)	теме, не способен ответить на вопросы

ПРИЛОЖЕНИЕ 4

Орфографический и лексический диктант

по Разделу 1 «Роль английского языка для подготовки специалиста»

по учебной дисциплине Иностранный язык
(наименование дисциплины)

Составитель _____/Е.Н.Горшкова/
(подпись)

Напишите следующие слова на английском языке, обращая внимание на правописание.

Осматривать достопримечательности, садиться на поезд, в автобус, метро, такси, мелочь, сдача, прямо, вперёд, квартал, повернуть, угол, делать пересадку, сходить, стоянка такси, быстро, экскурсия, фотографировать, мало времени, небоскрёб, получать удовольствие, универмаг, витрина, товары, предпочитать.

Критерии оценки за диктант

Оценка	Критерии оценки
Оценка «5» (отлично)	Диктант выполнен полностью, без ошибок (возможна одна неточность, описка, не являющаяся следствием непонимания материала)
Оценка «4» (хорошо)	Диктант выполнен полностью, допущена одна негрубая ошибка или два-три недочета
Оценка «3» (удовлетворительно)	В диктанте допущено более одной грубой ошибки или более двух-трех недочетов, но обучающийся владеет обязательными знаниями по проверяемой теме
Оценка «2» (неудовлетворительно)	В диктанте показано полное отсутствие обязательных знаний

ПРИЛОЖЕНИЕ 5

Тест по Разделу 1

«Роль английского языка для подготовки специалиста»

по учебной дисциплине Иностранный язык
(наименование дисциплины)

Составитель _____/Е.Н.Горшкова/
(подпись)

Тест «English Tenses»

1. He _____tennis tomorrow.
A. is playing
B. play
C. plays
D. is play

2._____out tonight.
A. are you going
B. are you go
C. do you going
D. go you

3. What _____to the party tonight?
A. are you wearing
B. are you going to wear
C. do you wear
D. you are going to wear

4. I think this cadet _____the exam.
A. passes
B. will pass
C. will be pass
D. will passing

5. We _____ashore on Saturday.
A. we go
B. we'll go
C. we're going
D. we will going

6. «_____you tomorrow, OK?
A. I phone
B. I phoning
C. I'm phoning
D. I'll phone

7. There's a good film on TV tonight._____it.
A. I watch
B. I'll watch
C. I'm going to watch
D. I'll watching

8. It's a nice day ._____for a walk?
A. do we go
B. shall we go
C. are we go
D. we go

Критерии оценки теста

Процент результативности (правильных ответов)	**Оценка уровня подготовки**	
	балл (отметка)	**вербальный аналог**
80 ÷ 100	5	отлично
70 ÷ 79	4	хорошо
60 ÷ 69	3	удовлетворительно
менее 60	2	неудовлетворительно

ПРИЛОЖЕНИЕ 6

Тест по Разделу 1
«Роль английского языка для подготовки специалиста»

по учебной дисциплине Иностранный язык
(наименование дисциплины)

Составитель _____/Е.Н.Горшкова/
(подпись)

Тест «English Tenses»

Вариант 1

1. Can you close the cabin, please?

A. I cold
B. I am cold
C. I have cold
D. I has cold

2. Our captain_____in politics.

A. Isn't interested
B. Not interested
C. Doesn't interested
D. Don't interest

3. «_____» «No, he is out»

A. Is it ship your mate?
B. Does your mate on the ship?
C. Is your mate on the ship?
D. Are your mate on the ship?

4. « How much_____?» «Fifty pence»

A. Are these postcards
B. Is these postcards
C. These postcards
D. Do these postcards

5. Look at Dick!_____ his new hat.

A. he wearing
B. he has wearing
C. he is wearing
D. he's wearing

6. You can turn off the TV._____it.

A. I am not watch
B. I am not watching
C. I not watching
D. I do not watching

7. «_____ today?» « No, he is at home»

A. Is working Paul?
B. Is work Paul?
C. Is Paul work?
D. Is Paul working?

8. Look! There's John!_____

A. Where he is going?
B. Where he go?
C. Where's he going?
D. Where he going?

9. The Earth _____round the Sun.

A. going
B. go
C. goes
D. does go
E. is go

10. Tom lives near us. We _____him.

A. often see
B. see often
C. often seeing
D. are often seeing

11. We _____TV very often.

A. not watch
B. does not watch
C. don't watch
D. don't watching

12. _____near here?

A. Do your friends live
B. Are your friends live
C. Does your friends live
D. Do your friends living

13. I don't understand this sentence. What_____?

A. mean this word
B. means this word
C. does mean this word
D. does this word mean

14. Please, be quet._____

A. I working
B. I work
C I'm working
D. I'm work

15. Tom _____a shower every morning.

A. has
B. having
C. is having
D. have

Тест «English Tenses»

Вариант 2

1. He _____tennis tomorrow.

A. is playing
B. play
C. plays
D. is play

2. _____out tonight.

A. are you going
B. are you go
C. do you going
D. go you

3. I’m going meeting tonight.

A. is start
B. is starting
C. starts
D. start

4. What _____to the party tonight?

A. are you wearing
B. are you going to wear
C. do you wear
D. you are going to wear

5. I think this cadet _____the exam.

A. passes
B. will pass
C. will be pass
D. will passing

6. We _____ashore on Saturday.

A. we go
B. we’ll go
C. we’re going
D. we will going

7. «_____you tomorrow, OK?

A. I phone
B. I phoning
C. I’m phoning
D. I’ll phone

8. There’s a good film on TV tonight._____it.

A. I watch
B. I’ll watch
C. I’m going to watch
D. I’ll watching

9. It’s a nice day ._____for a walk?

A. do we go
B. shall we go
C. are we go
D. we go

Критерии оценки теста

Процент результативности (правильных ответов)	**Оценка уровня подготовки**	
	балл (отметка)	**вербальный аналог**
80 ÷ 100	5	отлично
70 ÷ 79	4	хорошо
60 ÷ 69	3	удовлетворительно
менее 60	2	неудовлетворительно

ПРИЛОЖЕНИЕ 7

Создание устных и письменных высказываний

по Разделу 1
«Роль английского языка для подготовки специалиста»

по учебной дисциплине Иностранный язык
(наименование дисциплины)

Составитель _____/Е.Н.Горшкова/
(подпись)

My profession

Choosing a career and getting a job are the most important things in anyone's life. As for me I am a future electrician. I am responsible for the electrical equipment. There is always much work to do for electricians. All electrical equipment sometimes need repairing. That's why electricians look after machineries and electrical devices. I try to work hard to be a well-qualified specialist.

Критерии и шкала оценивания устных и письменных высказываний.

Оценка	**Критерии оценки**
Отлично	Коммуникативная задача решена полностью. Высказывание логично, лексика соответствует поставленной задаче, использованы разнообразные грамматические конструкции в соответствии с поставленной задачей и требованиям обучения языку, грамматические ошибки либо отсутствуют, либо не препятствуют решению коммуникативной задачи. Орфографические ошибки отсутствуют, соблюдены правила пунктуации.
Хорошо	Коммуникативная задача решена полностью. Высказывание логично, использованы средства логической связи. Лексика соответствует поставленной задаче и требованиям. Но имеются незначительные ошибки. Использованы разнообразные грамматические конструкции в соответствии с поставленной задачей. Грамматические ошибки незначительно препятствуют решению коммуникативной задачи. Незначительные орфографические ошибки, соблюдены правила пунктуации.
Удовлетворительно	Коммуникативная задача решена. Высказывание нелогично, неадекватно использованы средства логической связи. Имеются грубые грамматические ошибки и незначительные орфографические ошибки.
Неудовлетворительно	Коммуникативная задача не решена. Высказывание нелогично, неадекватно использованы средства логической связи, формат высказывания не соблюден. Имеются грубые грамматические ошибки.

ПРИЛОЖЕНИЕ 8

Вопросы для собеседования

по Разделу 1
«Роль английского языка для подготовки специалиста»

по учебной дисциплине Иностранный язык
(наименование дисциплины)

Составитель _____/Е.Н.Горшкова/
(подпись)

Вопросы для собеседования

1. What is your future profession?
2. Is the profession of the electrician interesting?
3. What is the electrician responsible for?
4. Must he know his duties well?
5. What are the duties of the electrician?
6. Are you going to work at sea in future?
7. Who helped you to choose your future profession?
8. Is it important for the electrician to know English well? Why?
9. Are you going to improve your skills?
10. What must you do to master your future profession?

Критерии оценки устного ответа

Оценка	Критерии оценки
Оценка «5» (отлично)	Обучающийся владеет знаниями в полном объеме темы, достаточно глубоко осмысливает материал; самостоятельно, в логической последовательности отвечает на вопрос, умеет устанавливать причинно-следственные связи; четко формирует ответ
Оценка «4» (хорошо)	Обучающийся владеет знаниями по теме почти в полном объеме; самостоятельно дает полноценные ответы на вопрос, не всегда выделяет наиболее существенное, но не допускает вместе с тем серьезных ошибок в ответе
Оценка «3» (удовлетворительно)	Обучающийся владеет обязательным объемом знаний по теме; но оперирует неточными формулировками; в процессе ответа допускаются ошибки по существу вопроса. Обучающийся способен решать лишь наиболее легкие задачи, владеет только обязательным минимумом знаний.
Оценка «2» (неудовлетворительно)	Обучающийся не освоил обязательного минимума знаний по теме, не способен ответить на вопросы

ПРИЛОЖЕНИЕ 9

Практическая работа по Разделу 1

«Роль английского языка для подготовки специалиста»

по учебной дисциплине Иностранный язык
(наименование дисциплины)

Составитель _____/Е.Н.Горшкова/
(подпись)

Вариант 1

I. Insert the proper form of the verb.

1. My friend (to live) in Moscow.

2. The cadets (to have) English lessons yesterday.

3. I (to be) a marine engineer next year ship next week.

II. Put 4 questions to the sentence:

1. The engineer keeps watch in the engine-room.

Insert the proper form of the verb:

2. The sailors wash the deck every day.

Вариант 2

I. Insert the proper form of the verb.

1. The cadets (to have) English lessons yesterday.

II. Put 4 questions to the sentence:

1. The engineer keeps watch in the engine-room.

2. The sailors wash the deck every day.

Критерии и шкала оценивания практической работы

Оценка	***Критерии оценки***
Отлично	Правильность выполнения задания на лабораторную/практическую работу в соответствии с вариантом; высокая степень усвоения теоретического материала по теме лабораторной/практической работы. Способность продемонстрировать преподавателю навыки работы в инструментальной программной среде, а также применить их к решению типовых задач, отличных от варианта задания. Высокое качество подготовки отчета по лабораторной/практической работе. Правильность и полнота ответов на вопросы преподавателя при защите работы.
Хорошо	Демонстрирует достаточно высокий/выше среднего уровень выполнения задания на лабораторную/практическую работу в соответствии с вариантом и хорошую степень усвоения теоретического материала по теме лабораторной/практической работы. Все требования, предъявляемые к работе, выполнены.
Удовлетворительно	Демонстрирует средний уровень выполнения задания на лабораторную/практическую работу в соответствии с вариантом Большинство требований, предъявляемых к заданию, выполнены.
Неудовлетворительно	Демонстрирует низкий/ниже среднего уровень знаний, умений, навыков в соответствии с критериями оценивания. Многие требования, предъявляемые к заданию, не выполнены.

ПРИЛОЖЕНИЕ 10

Тест по Разделу 1
«Роль английского языка для подготовки специалиста»

по учебной дисциплине Иностранный язык
(наименование дисциплины)

Составитель _____/Е.Н.Горшкова/
(подпись)

Тест «English Tenses»

1. I can’t talk to you now. I’ll talk to you later when___more time.

A. I’ll have

B. I had

C. I have

D. I’m going to have

2. _____late this evening, don’t wait for me.

A. If I’m

B. If I’ll be

C. When I’m

D.When I’ll be

3. I don’t know the answer. If I _____the answer, I’d tell you.

A. know

B. would know

C. have known

D. knew

4. I like this jacked._____it if it wasn’t so expensive.

A. I buy

B. I’ll buy

C. I bought

D. I’d bought

5. John lives in a house_____is 100 years old.

A. who

B. that

C. which

D. what

6. The members of the crew _____work on the ship are very friendly.

A. who

B. that

C. which

D. what

7. Did you find the document_____?

A. who you wanted

B. that you wanted

C. what you wanted

D. you wanted

8. I met a captain_____can speak six languages.

A. who

B. which

C. must

9. The weather _____last week

A. is good

B. was good

C. were good

D. good

10. Why _____late this morning?

A. you was

B. did you

C. was you

D. were you

11. Ted _____in a bank from 1998 to 2013

A. worked

B. working

C. goes

D. got

12. Mary _____to the cinema three times last week.

A. go

B. went

C. goes

D. got

13. I_____ television yesterday.

A. didn’t watch

B. didn’t watched

C. don’t watched

D. don’t watch

14. «How_____?» « I don’t know. I didn’t see it.»

A. happened the accident

B. did happen the accident

C. does the accident happen

D. did the accident happen

15. What_____at 11.30 yesterday?

A. were you doing

B. was you doing

C. you were doing

D. were you do

16. Jack was reading a book when the phone_____.

A. ringing

B. ringed

C. rang

D. was ringing

17. I saw them this morning. They_____at the bus stop.

A. waiting

B. waited

C. were waiting

D. was waiting

Критерии оценки теста

Процент результативности (правильных ответов)	**Оценка уровня подготовки**	
	балл (отметка)	**вербальный аналог**
80 ÷ 100	5	отлично
70 ÷ 79	4	хорошо
60 ÷ 69	3	удовлетворительно
менее 60	2	неудовлетворительно

Критерии оценки устного ответа

Оценка	Критерии оценки
Оценка «5» (отлично)	Обучающийся владеет знаниями в полном объеме темы, достаточно глубоко осмысливает материал; самостоятельно, в логической последовательности отвечает на вопрос, умеет устанавливать причинно-следственные связи; четко формирует ответ
Оценка «4» (хорошо)	Обучающийся владеет знаниями по теме почти в полном объеме; самостоятельно дает полноценные ответы на вопрос, не всегда выделяет наиболее существенное, но не допускает вместе с тем серьезных ошибок в ответе
Оценка «3» (удовлетворительно)	Обучающийся владеет обязательным объемом знаний по теме; но оперирует неточными формулировками; в процессе ответа допускаются ошибки по существу вопроса. Обучающийся способен решать лишь наиболее легкие задачи, владеет только обязательным минимумом знаний.
Оценка «2» (неудовлетворительно)	Обучающийся не освоил обязательного минимума знаний по теме, не способен ответить на вопросы

ПРИЛОЖЕНИЕ 11

Перечень практических работ по Разделу 2

«Теория перевода технической литературы»

по учебной дисциплине Иностранный язык
(наименование дисциплины)

Составитель _____/Е.Н.Горшкова/
(подпись)

Вариант 1

I. Прочитайте и переведите текст «Essential parts of a Diesel Engine» на русский язык.

The diesel engine in its main features is composed of the following parts:

Bedplate (engine frame) and crankcase.

These two parts make a supporting structure to hold the cylinders, crankshaft and main bearings in firm relation to each other. The crankcase (mostly steel) serves as oil sump for the forced lubrication system. Cylinders are of cast iron. They are clamped to the frame by means of long through-bolts which transmit the combustion pressure in the cylinders direct to the frame without causing tensile stresses. The cylinders are provided with large removable inspection doors through which the cooling water spaces may be inspected and cleaned. Cylinder covers (heads) close the top end of the cylinders.

Cylinder liners.

The liner is a comparatively thin cylinder, flanged at the upper end and slightly thickened at its lower end in the way of the packing grooves. The bore is carefully finished to ensure perfect roundness and uniform diameter. The finish is given by boring, grinding or reaming, but of these three methods the first is most generally used. For high grade work it is general practice to finish the interior surfaces of diesel engine liners by grinding, followed by honing. The outside surface of the liner is rough turned. Owing to the fact that the maximum pressure, occurs at the top of the liner and the minimum at the lower end of the stroke the thickness usually tapers toward the bottom to about one-half that at the top. In the 4-cycle liners it is frequently necessary to make recess at the top to provide clearance for the inlet and exhaust valves, which can be placed close enough together in the head to clear the liner. The holes for admission of the lubricating oil are placed at the height that will coin-side with the second piston ring from the top when the piston is at the end of the down stroke.

Piston and piston rings.

The piston is made of steel, cast iron or special alloy which is highly resistant to heat stresses. The piston has a long life. According to size, the piston is provided with piston rings to produce compression and scraper rings to prevent lubricating oil from penetrating into the combustion chamber, where it would burn and deposit coke. The correct function of the scraper rings contributes to the low lubricating oil consumption.

Connecting rods.

The connecting rod is made of steel. The connecting rod connects the piston to the crank on the crankshaft. It transmits force in either direction from the piston to the crank on the crankshaft. The crankshaft is made of forged steel. It has bored ducts conveying the forced lubrication oil to all bearings. Valves serve to admit the air and to discharge the spent or exhaust gases. The camshaft is of steel and is driven from the crankshaft through gear wheels. The bearings are roller and ball bearings. The cams are of case hardened steel. The camshaft drives the fuel pumps, one for each cylinder. The flywheel is a heavy wheel fastened to the crankshaft. Its purpose is to keep the engine running smoothly from the time of one power stroke to the next power stroke. Large-size diesels are often double acting. Then there is included with the above a crosshead and a piston rod.

II. Read and translate words and word-expressions.

Main features, supporting structure, engine frame, in firm relations to each other, to serve as forced lubrication system, cast iron, hardened steel, combustion pressure, without causing, tensile stress, removable inspection doors, cooling water spaces, thin cylinder, flanged at the upper end, in the way of the packing grooves, perfect roundness, is most generally used, high grade work, it is general practice, is rough turned, to be highly resistant, a long life, according to, in either direction, to convey, gear wheels, forged steel, heavy wheel, to keep running, is including with the above, following parts, its purpose.

III. Translate the following Russian word combinations into English.

Состоять из, фундаментная рама, удерживать, рамовый подшипник, картер, сделан из, при помощи, соединять, можно осмотреть и почистить, крышка цилиндра, сверху, сравнительно тонкий, утолщать, нижняя (верхняя) часть, тщательно обрабатывать, со- вершенная форма, расточка, шлифовка, поршневые кольца, особый сплав, камера сгорания, гореть, коксоваться, малый расход (топлива, воды), соединить с кривошипом, пере- давать, отверстия, отработанные газы, приводиться от, шестерни, по одному на каждый, крупногабаритный, крейцкопф.

IV. Finish the sentences.

1. The diesel engine is composed of …

2. This supporting structure hold …

3. The crankcase serves as …

4. Cylinders are clamped to …

5. The liner is …

6. The piston is provided …

7. The connecting rod connects …

8. Valves serve to …

9. The flywheel purpose is to …

V. Give synonyms to the following words.

To consist of, following, to keep, to fasten, to convert, to transfer, to be equipped with, to examine, inner surface, high quality, to make, to join, operation.

VI. Give antonyms.

To connect, short, close, top end, cooling, thin, rough, high grade, inside, compression, to prevent, power, to admit, heavy, small-size, double-acting.

VII. Put the proper English equivalents instead of Russian words.

1. The diesel engine (состоит) of the following parts: engine frame and crankcase.

2. The crankcase (сделан) steel.

3. Cylinders are clamped to the frame (при помощи анкерных болтов).

4. (Крышки цилиндра) close the (верхнюю часть) of the cylinders.

5. (Втулка) is a comperatively thin cylinder.

6. (Внутреннее отверстие) is carefully finished (чтобы обеспечить) perfect roundness and uniform diameter.

7. (Обработка) is giving by boring grinding or reaming.

8. (Согласно размеру) the piston (снабжен) compression rings and scraper rings.

9. The correct function of the scraper rings (способствует) to the low lubricating oil (расход).

10. The connecting rod (соединяет) the piston to the crank on the crankshaft.

VIII. Answer the questions.

1. What are the essential parts of a diesel engine?

2. What do a bedplate and a crankcase make and why?

3. How are cylinders clamped to the frame and what are they provided with?

4. What is a cylinder liner?

5. What is fitted in the cylinder head?

6. What rings does a piston have and what are their functions?

7. What is a piston made of?

8. What is the function of a connecting rod?

9. What valves are there in the cylinder cover?

10. What do valves serve for?

11. What are the functions of the camshaft and crankshaft?

12. What material is used to make the engine parts?

IX. Tell about engine parts and their functions.

Вариант 2

I. Прочитайте и переведите текст «Major Running Parts» на русский язык.

Diesel engine major parts are: crankshaft, connecting rod, crosshead, piston rod, piston. Marine Diesel engine crankshafts are usually made of open hearth steel. For large engines it is customary to build up the crankshafts, each pair of webs with its crank pin being forged solid and the web forgings bored and shrunk on the shaft. Standard type of connecting rod has a flanged out rectangular foot which rests on the top crank pin box and to which the box is bolted. It tapers slightly towards the top end and is there forked cut to form a support for the crosshead pin boxes. The rod is drilled through its length to afford a passage for lubricating oil. The marine type crosshead is a forged steel block with wrist pins projecting from the fore and aft sides. The block is bored to receive the end of the piston and the cast steel slipper is secured to the block by through bolts or studs. The piston rod may be solid but in some cases hollow rods are used as a means of getting cooling water or lube oil into and out of the piston. The upper end is formed into a flange for bolting to the upper side of the piston. Pistons in general may be divided into trunk and crosshead types. A typical trunk piston length is slightly more than twice its diameter. The reason is that the piston is required to perform two major functions: to form a gas-tight and movable cylinder end and to transmit side thrust to the stationary part of the engine structure. For the 2-cycle, crosshead type engine the piston is usually made in two parts: the prison proper and the skirt. The use of a long skirt on the piston is necessary to keep the exhaust and scavenging ports closed when the piston is in the upper part of the cylinder. Pistons are cooled by oil or water and for this purpose the upper part of the prison is made in the form of a closed box. In the case of oil cooling the lubricating oil is used. If water cooling is used or if the piston cooling oil is kept separate from the bearing oil, the cooling fluid is led into the piston through a telescopic or knuckle jointed pipe.

II. Translate English word-combinations into Russian.

Running parts, connecting rod, piston rod, open heart steel, crank pin, rectangular foot, crank

pin box, crosshead pin box, forged steel block, wrist pin, trunk piston, gas-tight piston skirt.

III. Supply prepositions or conjunctions.

1. Diesel engine crankshafts are usually made … open hearth steel.

2. The web forgings are bored and shrunk … the shaft.

3. The connecting rod is forked … to form a support for the crosshead pin box.

4. Wrist pins project … the fore and aft sides of the crosshead.

5. Hollow rods are used … a means … getting cooling water … and … of the piston.
6. Pistons are cooled… oil or water.

IV. Give English equivalents to the Russian words.

1. Crank pin boxes (делают из чугуна).

2. The rod (просверлен по всей длине).

3. The lower end of the rod (был уменьшен в диаметре).

4. Connecting rod (вилкообразный).

5. The piston skirt (используется) to keep the ports closed.

6. The drilled rod is used (обеспечить проход) for lubricating oil.

V. Answer these questions:

1. What are the major running parts of a Diesel engine?

2. What material are crankshafts usually made of?

3. What can you say about crank webs?

4. What kind of foot does a standard type connecting rod have and where does it rest?

5. For what purpose is the rod drilled through its length?

6. Where do the crosshead wrist pins project from?

7. What types of piston rods are used in marine practice?

8. What are the major functions performed by the piston?

9. Why is the use of a skirt on the piston necessary?

10. What is the piston cooled by?

Вариант 3

I. Прочитайте и переведите текст «Valves» на русский язык.

There are several arrangements to provide gas distribution phases in marine Diesel engines: the exhaust valve, the fuel valve, the camshaft, the starting valve. They ensure starting and reversing the engine, normal ahead and astern engine operation. The exhaust valve housing is made of close-grained cast iron, water-cooled and fastened to the cylinder cover by heavy studs. The gas passage is formed to give the least possible resistance to the escaping exhaust gases. The exhaust valve and steam are forged in one piece of highly alloyed heat-resistant steel. The starting valve is amply dimensioned to give a quick start under all conditions and is air-operated through pilot valves, the air acting on a bronze piston fastened to the outer end of the valve stem. The fuel valve has a sprint stem and is opened automatically by the oil pressure from the fuel pump. The housing is of steel, and the stems and liners are of alloyed steel heat treated to a very high hardness. The atomizers are fuel oil-cooled which, in combination with the very small amount of oil enclosed between valve seat and atomizer holes and the rapid closing of the valve seat and atomizer holes and the rapid closing of the valve, prevents formation of coke at the atomizer holes, and thus ensures faultless combination at all times, even with fuels tending to coke formation. The camshaft, which is driven from the crankshaft by means of a roller chain, is placed in an oil-tight housing and is supported in pressure lubricated white metal-lined bearings. The exhaust valves are actuated by hardened cams, the motion being transmitted through hardened rollers in cylindrical guides' pushrods and rocking levers. The starting air pilot valves are actuated from cams on a separate shaft which, by means of the reversing handle, is brought in the desired position for ahead or astern running.

II. Give English equivalents to the following Russian words and word-combinations.

Обеспечивать; корпус сделан из; выкован из целого куска; жаропрочный; при всех условиях; внешний конец; препятствовать образованию нагара; помещать; герметичный; подшипники; облицованные белым металлом; кулачок;

передавать; коромысло; отдельный вал; рукоятка реверса; необходимое положение; для работы вперед и назад.

III. Answer these questions:

1. What arrangements provide gas distribution in marine Diesel engines?
2. What do gas distribution arrangements ensure?
3. What is exhaust valve housing made of and where is it fastened to?
4. What can you say about starting valve?
5. How is the fuel valve opened?
6. What do you know about atomizer?
7. How is the exhaust valve actuated?
8. Where is the camshaft placed?
9. What does the reversing handle do?

IV. Translate into English, using Passive Constructions.

1. Корпус выхлопного клапана был сделан из мелкозернистого чугуна и охлаждается водой.
2. Выпускной клапан выкован из высоко легированной жаропрочной стали.
3. Топливный клапан будет открываться автоматически.
4. Распредвал приводится от коленчатого вала.
5. Движение передается посредством роликов, толкателей и коромысел.

V. Ask as many questions to the text, as possible.

Вариант 4

I. Прочитайте и переведите текст «The Four – Cycle Diesel Engine» на русский язык.

Any internal combustion engine has a four – stroke cycle or a two – stroke cycle, according to whether it receives a working impulse on the piston every other revolution or every revolution. These two terms are commonly abbreviated to 4 – cycle and 2 – cycle, and engines of either type may be single acting or double acting. In the four – stroke cycle, or, as it is commonly called, the four – cycle engine, four strokes of the piston, or two revolutions of the shaft, are required to complete the cycle. As the piston moves down on its suction or intake stroke, a charge of pure air containing the necessary oxygen for combustion is drawn in through the inlet valve in the cylinder head. The inlet valve was opened mechanically by a cam at the end of the previous upward stroke. After the piston has completed the suction stroke, the inlet valve closes, and the piston starts on an upward stroke, called compression stroke, compressing the charge of pure air into the inlet valve closes, and the piston starts on an upward stroke, called compression stroke, compressing the charge of pure air into the clearance volume to a pressure of between 350 and 450 lb. per sq. in. About the time that the piston reaches the end of its upward stroke, the fuel injection valve opens for a short period, and finely atomized fuel oil is sprayed in the combustion space under high, pressure. Because of the heat compression, the fuel oil is ignited and burns generating heat. The piston has now started downward on its third stroke, and the hot gases generated by the combustion of the oil expand and force the piston downward on its working or power stroke. Near the end of the working stroke the exhaust valve in the cylinder head opens, part of the gases escape, and the pressure in the cylinder drops approximately to the atmospheric. The piston now starts up on its exhaust stroke, and all the products of combustion except those contained in the clearance volume are forced out through the open exhaust valve. The exhaust valve now closes, and the cycle is repeated.

II. Translate into Russian.

According to; whether it receives a working impulse; every other revolution; engines of either type; as it is commonly called; single acting engine; a charge of pure air; containing oxygen for combustion; previous stroke; about the time; open for a short period; because of; generating heat; generated by the combustion of the oil; to force the piston down; approximately to the atmospheric; except those contained in; are forced out through the valve.

III. Find English equivalent to the following Russian words and word - combinations.

4 – (2-х) тактный двигатель, каждый оборот коленчатого вала, такты – всасывания, сжатия, горения и расширения, выхлоп, ход поршня вверх (вниз), давление и температура, падать, атмосферное давление, камера сгорания, впрыскиваться, форсунка, цикл повторяется, продукты сгорания, выталкивать через открытый выпускной клапан, засасывается через открытый впускной клапан.

IV. Translate the following sentences into Russian, paying attention to the Participle I and II.

1. The amount of clearance applied by the various engine builders varies considerably.
2. There are engines operating on the two – cycle, principle and having cylinders arranged radially.
3. A pound of any kind of fuel used in engines contains a definite amount of heat.
4. Considering one cylinder the pressure of the exhaust at the exhaust valve will vary considerably, falling to 2–3 lbs and rising to 4–7 lbs.
5. The power transmitted is automatically monitored and controlled through engine fuel control block.
6. Fuel oil is sprayed into the cylinder by means of the pressure produced by the fuel –injection pump.
7. The 10 cylinder poppet – valve engine tested a month ago will be installed in the tanker being built at S. shipyard.

V. Form the degrees of comparison.

High, low, wide, good, little, efficient, suitable, bad, long, short, narrow, convenient.

VI. Complete sentences according to the content of the text.

1. Two revolutions of the shaft are required …
2. A charge of pure air is draw in …
3. The piston starts on an upward stroke …
4. The piston compresses the charge …
5. At the end of compression stroke …
6. Finally atomized fuel oil is sprayed …
7. The fuel is ignited …
8. The exhaust valve in the cylinder head …
9. All the products of combustion …

VII. Change sentences from Active voice into Passive, pay attention to tenses of the predicate.

1. Fresh air fills the cylinder.
2. Piston pushed the exhaust gases out.
3. They placed the exhaust valve in the centre of the cylinder head.
4. Fuel injection pump will spray the fuel oil.
5. The cam opens the inlet valve.
6. Piston compresses a charge of air to about 480 pounds.
7. Compression rose the air temperature to about 1,000 degrees F.

VIII. Answer the following questions:

1. How many strokes of the piston are necessary to complete the cycle in the 4 – cycle engine?
2. Name the four strokes of the piston.
3. What valves must be closed during compression stroke? Why?
4. What is the action of the expanded gas?
5. Tell about the pressure and temperature during compression.
6. What takes place when the exhaust valve opens?
7. What happens after the exhaust valve closes?

Вариант 5

I. Прочитайте и переведите текст «The Two – Cycle Engine» на русский язык.

In a two – stroke cycle compression occurs on the first or upstroke; combustion and expansion occur during the downstroke; exhaust, scavenging and recharging with air occur during the latter part of the downstroke and the beginning of the next succeeding upstroke. This sequence of events is made possible by substituting ports in the bottom of the cylinder wall for one or more exhaust valves. There are two groups of these ports, one for the exhaust and the other for scavenging air, usually on opposite sides of the cylinder, but in some designs both groups are arranged on the same side. The exhaust ports connect with the exhaust manifold, while the scavenging ports communicate with the scavenging air receiver. The exhaust ports are slightly higher than the scavenging ports, so that they are uncovered by the piston while the scavenging ports are still closed. This is necessary because the cylinder gas is at a pressure of about 40 lb. per sq, in when exhaust begins, and, if the scavenging ports were open, the exhaust gas would blow into the scavenging air receiver. During the short time before the piston uncovers the scavenging ports, the gas pressure falls to atmosphere with the result that when the scavenging ports are uncovered, scavenging air rushes into the cylinder and blows the reminder of the burned gas out. The scavenging ports are inclined up-ward to direct the air toward the top of the cylinder and usually are positioned tangentially to give the air whirling motion. This arrangement has the disadvantage that on the return stroke the piston covers the scavenging ports while the exhaust ports are still partislly open, so that when compression begins the air pressure in the cylinders is about the same as that in the exhaust manifold. For this reason some engine designs include valve - controlled scavenging ports. A two – cycle engine must be provided with a scavenging compressor for supplying scavenging air.

II. Translate into Russian.

Compression occurs, upstroke (downstroke) of the piston, during the latter part of the downstroke, to be made possible by substituting opposite sides of the cylinder, in

some designs, on the same side, low pressure scavenging air receiver, to be slightly higher, to be uncovered by the piston, to be still closed, with the result that, to be inclined upward, to direct, to be positioned tangentially, to be partially open (closed), valve-controlled scavenging ports, no exhaust gas can flow out, however, pressure-controlled valve, to drop below that in the receiver, mean effective pressure.

III. Give antonyms to the following words.

Upstroke, inlet, to disconnect, bottom, to cover, to blow in, advantage, partially, below, to increase, usual, high, necessary, fall, before, short.

IV. Translate the sentences into Russian paying attention to the Conditional clauses.

1. If the piston is water cooled, the cooling fluid is led into the piston through the telescopic pipe and flow out through a similar pipe that discharges into the cooler.
2. If the allowed over speed was exceeded, the force would be sufficient to lift the suction valves off their seats.
3. If the scavenging ports were open, the exhaust gas would blow into the scavenging air receiver.
4. If the gasket is placed on the cage, it will fall off and if placed on the seat at the bottom of the housing, it would be pinched between the edges of seat and cage.
5. If cooling water supply was insufficient, the engine would be overheated.
6. If the engine is large, the crankshaft will be built up.

V. Supply the words given below into the following sentences.

1. There are … instead of inlet valves.
2. In a two-stroke engine … occurs on the first stroke, upstroke.
3. The exhaust ports are connected with …
4. Scavenging ports are in communication with …
5. The cylinder is … air at a pressure slightly above atmospheric.
6. … are inclined upward … the air toward …
7. Scavenging ports are positioned … to give the air …

Scavenging ports, whirling motion, exhaust manifold, low-pressure compressor, to fill, tangentially, to direct, the top of the cylinder.

VI. Answer the following questions.

1. What is there instead of an exhaust valve in the 2-cycle single-acting Diesel engine?
2. Where are the exhaust ports located?
3. What is there in place of air inlet valves?
4. What parts of the engine are the scavenging ports in communication with?
5. How is the low pressure scavenging air compressor driven?
6. Where do the scavenging ports open?
7. What pressure does the air flow into the cylinder at?
8. Where is the cylinder full of fresh air?
9. When does fuel injection occur?
10. How many revolutions are necessary to complete a cycle in a 2-cycle engine?

Вариант 6

I. Read and translate the text “Fuel Injection System” into Russian.

In an internal combustion engine the combustion process is rather complicated. All such engines operate with intermittent combustion. A charge of fuel is mixed with the air and ignited in the engine cylinder. For introducing the fuel charge into the cylinder if a Diesel engine fuel injection system is in general use. Each cylinder has its own fuel injection pump connected directly through piping to the spray nozzle of the individual engine cylinder. In this system oil is drawn into the individual pump through the suction valve. When the nose of the fuel cam strikes the lower end of the pump plunger, the oil in the pump barrel is forced out through the discharge valve. The pipeline is kept filled with oil, so when a new charge if oil enters the piping from the fuel pump, an equal amount is pushed out of the pipe into the spray valve mounted in the cylinder head. This oil acts upon the surface created by the design of the spray valve needle. The oil then issues through openings into the engine cylinder.

The amount of oil the pump delivers to the engine is controlled by the governor – the particular type of control depends upon the pump design. On some, the pump stroke is varied to control the oil charge, on others a bypass valve allows part of the oil to flow back into the pump suction line.

The spray valve may have a spring – loaded differential needle which is lifted by the oil pressure as soon as the pump starts its delivery stroke. The fuel valve may also contain only a light check valve to prevent the cylinder gases passing through the valve, this is called an open nozzle.

II. Find English equivalents to Russian words and word-combinations.

Система впрыска топлива; процесс смешения; сложный; заряд; прерывистый; смешиваться; обычно использоваться; свой собственный; топливно-впрыскивающий насос; форсунка; сопло; топливный кулачок; нижняя часть; плунжер; нагнетательный клапан; выталкивать.

III. Form nouns from the verbs.

a) to inject; to expand; to complicate; to vary; to create; to introduce; to introduce; to connect; to reduce; to ignite.

b) to form; to charge; to issue; to control; to flow; to load; to start; to pass; to pump; to force; to use.

c) Compose sentences using both verbs and nouns.

IV. Ask questions to the following sentences.

1. Combustion continues until the entire fuel charge has been burned.
2. Each cylinder has its own high pressure fuel pump connected to the spray nozzle.
3. Small-bore, high-speed engines require highly developed combustion chamber to prepare the fuel charge.
4. Atomization and spreading of the fuel depend on the shape of the combustion space.

V. Translate into English using the text.

1. Конструкторы создали множество систем впрыска.
2. Существуют 2 основных системы подачи топливного заряда в цилиндр дизельного двигателя.
3. Заряд топлива смешивается с воздухом и воспламеняется в цилиндре двигателя.
4. Все двигатели (ДВС) работает с прерывистым сгоранием топлива.
5. Топливо поступает в индивидуальный насос через всасывающий клапан.

VI. Answer the questions to the text.

1. What are the basic systems of introducing the fuel charge into the cylinder?
2. How long does combustion continue?
3. What can you tell about the time of introduction the fuel.
4. What is the amount of oil controlled by?
5. What can the spray valve have?

Вариант 7

I. Read and translate the text «Types of Diesel Engines». Check your comprehension by answering the questions.

Two-cycle and four-cycle diesel engines may be divided, according to structural arrangement, as follows: trunk-piston type, crosshead type, single-acting, double-acting, opposed-piston.

Trunk-piston and Crosshead Types

In the trunk-piston type the piston is attached to the crank by means of a connecting rod. Connection of the upper end of the rod to the piston is made by means of the piston pin, while the lower end is attached to the crankpin by means of a bearing known as the crankpin box. The horizontal component of the downward thrust of the piston, when it drives the crank, is taken by the piston and results in a side pressure against the wall of the cylinder. To provide adequate bearing so that this side pressure will have a low unit value, the piston is provided with an extended skirt, or trunk, from which this method of construction gets its name. This construction has the advantages that it reduces engine height and is cheaper than crosshead construction. It is universally used for small engines and in some cases for engines of quite large power. The crosshead type is usually confined to large engines. The piston is connected to the crosshead by a piston rod and the crosshead is in turn connected to the crankpin by a connecting rod. This construction has the advantage of relieving the piston and cylinder wall of side thrust and in the four-cycle engine permits to use a short piston. In the case of a two-cycle engine the extended piston skirt is still required in order to keep the exhaust and scavenging ports closed during the upstroke of the piston. This construction is penalized by the extra height required to make room for the crosshead and piston rod.

II. Answer the questions:

1. How is the piston attached to the upper and lower ends of the connecting rod in the trunk-piston engine?
2. What advantages does this engine have?
3. What advantage does the crosshead type engine have?

III. Переведите предложения на английский язык:

1. В холодную погоду двигатель перед пуском следует прогреть.

2. После пуска двигателя его работу проверяют по показателям контрольно-измерительных приборов.

3. Особое внимание следует обратить на работу систем смазки и охлаждения:

4. Перед пуском двигатель должен быть тщательно осмотрен.

5. Убедитесь, что в топливе нет воды.

6. Необходимо опробовать системы смазки и охлаждения до пуска.

7. Информируйте мостик о готовности двигателя.

8. Повышение температуры в системе смазки показывает, что подшипники перегрелись.

9. Записи в машинном журнале должны производиться по крайней мере каждый час.

IV. Перевести словосочетания на русский язык:

damaged exhaust valve seat

worn ring groove

to cut off from

to weld in place

to use heat

grinding

wear rate

in due time

shut-off fitting

ultrasonic test

to verify the scope of work

Вариант 8

I. Read and translate the text "Diesel combustion" into Russian.

Conditions for good combustion must be proved because the diesel engine has to handle the entire job of mixing and igniting fuel inside the cylinder in an extremely short time. Successful combustion depends on the following conditions:

a) fine atomization

b) high temperature for prompt ignitor

c) high relative velocity between fuel and air particles

d) good mixing of fuel and air.

Atomization and spreading of the fuel depend largely on the injection system. Compression ratio, cylinder dimensions and cooling arrangements determine the temperature conditions. Mixing depends on proper relation of the injection pattern, the intake system and the shape of the combustion space formed by the cylinder head, the cylinder walls and the piston crown.

There are different types of combustion chambers. The main of them are:

1) direct injection;

2) precombustion chamber;

3) turbulance chamber

Direct – injection Engines.

Most of the solid – injection engines turning at less than 400 r.p.m. and many running at higher speeds employ direct injection, that is, the oil is sprayed directly into the clearance space of the cylinder. The spray valve has from 5 to 10 orifices, of about 0.01 to 0.002 in diameter. This separation of the oil charge gives the necessary diffusion and insures that the oil drops penetrate and mix with entire air charge Atomization and diffusion of the oil is brought about solely by the velocity energy of the oil spray.

Precombustion – chamber Engines. This engine is one in which a small separated part of the combustion chamber communicates with the main part in the cylinder, through one or more small passages or orifices and the fuel is injected into the small (precombustion) chamber opposite its point of communication with the cylinder. In an engine of this type all of the fuel injected must necessarily pass through the precombustion chamber.

Turbulence – chamber Engines.

Turbulence – chamber engines are similar in form and arrangement of parts to the precombustion – chamber type, the main difference between them being one of proportions, in that the separated portion of the combustion chamber and cross – sectional area of the passage (or passages) between the latter and the main chamber are smaller in the precombustion – chamber engine. In a turbulence – chamber engine a section through the chamber which cuts the communicating passage in halves is at least approximately circular in form, whereas in a precombustion – chamber engine it is most likely to be rectangular. In the turbulence – chamber engine the energy necessary to accomplish a rapid and through intermixture of the air and fuel charges is derived from two sources – the kinetic energy of the fuel jet and that of the swirl of air in the turbulence chamber. If fuel is injected directly into the main combustion chamber, in which there is little or no turbulence, all of this energy must be supplied by way of the fuel jet, from which it is natural to conclude that in a turbulence – chamber engine it is possible to work with lower injection pressures than in an engine having direct injection into the main combustion chamber. This is one advantage of the turbulence – chamber engine.

II. Answer the following questions to the text:

1. What are the necessary conditions for successful combustion?
2. What determine the temperature conditions inside engine cylinder?
3. What kind of combustion chambers do you know?
4. What engine use direct injection?
5. What is a precombustion – chamber engine?
6. What is the difference between the turbulence chamber engine and the precombustion – chamber engine?

III. Translate the following sentences into English.

1. Судовые двигатели преимущественно имеют непосредственное
впрыскивание
топлива.

2. Двигатели, работающие на максимально высоких скоростях, используют камеры особых конструкций, т. е. вихревые.

3. Топливо подается в камеру сгорания или впрыскивается в особую предкамеру под давлением в 100 а.т.м. и это зависит от типа камеры сгорания.

4. В двигателях с непосредственным впрыскиванием топливо подается в камеру сгорания.

5. Для интенсивного смесеобразования в быстроходных двигателях применяется вихревая камера.

III. Give synonyms to the following words.

To separate, portion, cross, area, thoroughly entire, to drop, passage, to use, device, medium to fit, to feed.

IV. Point out the suffixes in the following words and translate them into Russian.

Formation, considerable, clearance, effective, receiver, partially, similar, likely, suitability, turbulence, expansion, useful, passage, feature, loosen, gaseous, careless, particularly, viscosity.

Вариант 9

I. Read and translate the text* "Engine Lubrication"** ***into Russian.

The purpose of lubrication is the maintenance of a film of lubricant between any two surfaces having relative motion. In the diesel engine there are two general types of surfaces –those inside the cylinders and those in the bearings. Mineral oils are mostly used as lubricant. This oil must be applied in small quantities for lubrication of the cylinders, but if it is used for bearing lubrication, the oil can be applied in any desired quantity and used repeatedly.

Cylinder lubrication.

Cylinder lubrication has two purposes – to maintain the required film to separate the liner surface and the surfaces of the piston rings and to act as a seal to prevent gases from blowing past the rings. These things must be done despite high temperature of combustion and high pressure resulting from combustion. The first tends to oxidize or burn the oil and the second tends to squeeze it out from between the surfaces or force the combustion gases past the rings. The principal problem is to produce an oil that will not break down and form carbon and gum- my lacquer that will cause the piston rings to stick or break. The customary method of applying oil to the cylinder walls is by means of small pumps assembled in units of from 2 to 24, known as mechanical lubrications. The oil is supplied in measured quantities, only enough to maintain a film and continuously replace that portion of the oil that is burnt or blown past the rings.

Bearing Lubrication

Bearing lubrication is effected by means of a pressure circulating system. A large amount of oil under pressure if forced through the bearings. In general, the system is made up of a sump from which a circulating pump draws oil and discharges it through the coolers and filters to a manifold which has a branch to each main bearings. Some of the oil flows out of the ends of the main bearings while the rest passes through an axial hole in the crankshaft to the crankpin bearings. Here more oil is lost and the rest passes through axial holes in the connecting rods to the wristpin or crosshead bearings. From here all of the oil may be discharged from the bearings into the crankpin or a portion may be passed through pipes to the interior of the pistons for cooling purposes and then return to the sump.

II. Translate the following words and word-combinations from English into Russian.

A film of lubricant, to have relative motion, to separate, to act as a seal, to prevent gases from blowing, past the rings, to oxidize the oil, to squeeze the oil out, to apply oil, to assemble in units, measured quantity, is effected by, pressure circulating system, large amount, to force through, to draw and discharge, a manifold with a branch, axial hole, crankpin bearing, wrist-pin bearing, crosshead bearing, a portion of oil, to pass through the pipe, interior of the piston, a sump.

II. Give English equivalents.

Чтобы смазать, поддерживать масляную пленку, движущиеся части, система смазки под давлением, сверленные отверстия, передавать масло к, подшипники мотылевых шеек, стекать в картер, мокрый картер, избыток смазки, сухой картер, предотвратить образование смоло- и лакообразного нагара, залипание колец, прорваться через, нагнетать, мотылевый подшипник, шатунный подшипник.

III. Answer the questions.

1. Why is it necessary to lubricate the engine parts?
2. What oil is used for lubrication?
3. What mechanism supplies oil to the cylinder walls?
4. What lubrication system is used to oil bearings?
5. What quantity can oil be applied in when lubricating cylinder and bearings?
6. What way does oil pass to the crankpin bearings?
7. Why is it necessary to clean the oil before supplying it to the system?

IV. Translate sentences into English.

1. Смазка предотвращает износ деталей двигателя.
2. Смазка цилиндров имеет 2 цели. Масляная пленка разделяет поверхности втулок
и поршневых колец. Она предотвращает прорыв газов за кольцами.
3. Для смазки подшипников используется циркуляционная система под давлением.
4. Циркуляционный насос засасывает масло и подает его через охладители и фильтры к трубопроводу.

5. Масло подается к поршневому подшипнику через отверстие в шатуне.
6. Механические лубрикаторы подают масло в небольших количествах.

Вариант 10

I. ***Read and translate the text "Engine Cooling System" into Russian.***

When fuel burns in the cylinders of a diesel engine only about one-third of the fuel's heat energy changes into mechanical energy and then leaves the engine in the form of brake horse- power. The rest of the heat shows up in hot exhaust gases, frictional heat of the rubbing surfaces and heating of the metal walls which form the combustion chamber, namely, the cylinder head and piston. The cooling system job is to remove the unwanted heat from these pasts so as to prevent:

1. Overheating and resulting breakdown of the lubricating oil film which separates the
engine rubbing surfaces.
2. Overheating and resulting loss of strength of the metal itself.
3. Excessive stresses in or between the engine parts due to unequal temperature.

Cylinder heads and cylinders are generally provided with jackets through which cooling
water is circulated. Pistons transfer their heat to the cylinder walls and to the lubricating oil. Many engines use oil coolers to remove the heat in the lubricating oil. The heat balance of an engine and the amount of heat absorbed by the cooling water vary with the type of engine and the design of cylinders, exhaust manifold, pistons lubricating oil system and any other equipment which may be cooled directly or indirectly by the circulating water.

Closed Cooling System

In closed cooling systems the jacket water is recirculated through closed heat exchangers. A heat exchanger is a device that transfers heat from one fluid to another. Thus, in closes systems, the same water remains in the system indefinitely and is recooled without exposure to air. The heat exchanger may be water-to-water (shell-and-tube type) or water-to-air (radiators and through only once if the supply is ample and there is no need to conserve it. Scale deposits are not as serious in heat exchangers can be easily cleaned. In the radiator type of a closed system air blown by a fan cools water within the tubes of the radiator. The water is not exposed to the air and there is no evaporation. Both salt and fresh water are used for cooling system. When a separate fresh-water system is employed, an extra

fresh-water cooler and pump for circulating sea water through this cooler must be available. The advantages of the separate fresh-water system are that higher temperatures of the cooling water can be used; salt-water fittings are not necessary beyond the fresh-water cooler, muddy (dirt) and other objectionable over-board water cannot get into the engine jackets, main circulating-water piping and circulating-water pumps.

The temperature of the discharge from sea-water cooling systems shouldn't exceed 130ºF, because higher temperatures lead to deposit of solids on the cooling surface. When fresh water is used for cooling, the discharge water temperature should not exceed 160ºF. to maintain efficiency the temperature of the cooling water shouldn't fall below 100ºF. Under no account must a large amount of cold water be supplied suddenly into a hot engine. Such sudden cooling would cause unequal contraction of the structural and working parts, would crack cylinder heads and cylinders and lead to seizing of pistons.

II. Answer the following questions.

1. In what form does mechanical energy leave the engine?
2. What's the cooling system's job?
3. What are cylinder heads and cylinders provided with?
4. Where do pistons transfer their heat?
5. What is the heat exchanger?
6. What types of heat exchangers do you know?
7. What should you know about the temperature of cooling water?
8. What can a large amount of cold water supplied into hot engine cause?

III. Give extensive answers.

1. Why is it necessary to cool the engine?
2. What cooling medium can be used?
3. Why is it preferable to cool the piston with oil?
4. Why is sea water used generally in the coolers?

IV. Translate into Russian

a) defining the prefixes in the words.

Unwanted, unequal, uncomfortable, indirectly, insufficient, indefinitely, incorrect, irregular, discharge, disconnect, remove, recirculate, recover, reheat, recool.

b) combine the following words with the above and translate them into Russian.

Heat, heating, stress, conditions, cooling, water level, timing, supply, operation, combustion products, heat balance, as much heat as possible, cold water, circulating pump.

V. Find synonyms to the following words in the text.

Thermal energy, to alter, to escape, burnt gases, warm, cylinder cover, function, to eliminate, undesirable, failure, to divide, to supply, to transmit, quantity, liquid, sufficient, additional, to keep.

VI. Translate sentences paying attention to the Infinitive functions.

1. The cooling system job is to remove the undesirable heat from the moving parts of the engine.
2. Many engines use oil coolers to remove the heat in the lubricating oil.
3. To transfer heat from one fluid to another a heat exchanger is used.
4. Cooling is also provided for the exhaust manifold to prevent high temperatures.
5. The plant utilizes a heat exchanger to recover heat from exhaust gases.

VII. Change the following sentences into the Passive Voice.

1. Fresh water cools the piston.
2. The burning fuel transfers the heat to the metal parts of the engine.
3. Sea water cools the oil and scavenging air.
4. The engine drove the pump.
5. We provided an oil film between the rubbing surfaces.

VIII. Translate sentences from Russian into English.

1. Цилиндровые крышки и цилиндры обычно снабжены рубашками.
2. Масляный холодильник используют для удаления тепла из смазочного масла.
3. Назначение системы охлаждения – предотвратить перегрев трущихся поверхностей.
4. Тепловой баланс двигателя может меняться в зависимости от типа двигателя и конструкции цилиндров, поршней и системы смазки.
5. Теплообменники могут быть водяного и воздушного охлаждения.
6. Охлаждение пресной водой вызывает меньшее отложение осадков и накипи, меньше вызывает коррозию.

Вариант 11

I. Read and translate the text "Turbochanging System" into Russian.

To increase the available output of a diesel engine of given main dimensions the engine is connected with one or more exhaust-gas turbine-driven compressors and air coolers: an arrangement which is generally known as turbocharging. The only difference between an engine equipped in this manner and a normally aspirated engine is that the former operates at an increased pressure level. The exhaust gas drives a turbine which, in turn, drives a centrifugal compressor which increases the air pressure before the reciprocating scavenging air pumps. Since the density of scavenging air is increased by the pressure rise in the turbo-compressor and the subsequent cooling, a larger quantity of air by weight is entrapped in the cylinder which, in turn, permits the combustion of a larger quantity of fuel and gives a higher available output. Each turbo-charger consists of a single stage or two-stage centrifugal compressor and axial turbine which are assembled on the same shaft. Rotation of the rotor depends on the engine load and scavenging resistance, since the unit is connected to the engine without any mechanical transmission. The turbo-charged engine is maneuvered in the same manner as a normally aspirated engine. MAK engines use only pulse turbocharging and to meet this requirement cylinder numbers which permit good grouping of the turbocharger connections are employed. A distinction is made between three-pulse charging for 6 – 9 and 12 cylinder engines with cams specially timed for three-pulse mode and four-pulse charging for 8 and 16 cylinder engines with completely different timings for the four-pulse mode. The disadvantage of pulse charging for highly-supercharged engines compared with the constant pressure charging is the fact that during the full load the single-stage exhaust turbine can only utilize the lower part of the very high exhaust gas pressure wave. But this is the advantage at part load or reduced power. Pulse charging has a further advantage that the engine can adapt very quickly to sudden changes in load. With exhaust gas turbo-charging it has proved possible to triple the power obtained from the swept volume of a diesel engine.

II. Compose your own sentences with the words.

Full load, drive, larger quantity, increase.

III. Translate the following word-combinations into Russian.

Burning more fuel oil, at a pressure higher than atmosphere, exhaust-gas turbine-driven compressor, air cooler, is generally known, the only difference, normally aspirated engine, pressure level, reciprocating scavenging air compressor, by the pressure rise, subsequent cooling, larger quantity, higher output, single-stage, axial turbine, on the same shaft, depend on the load, scavenging resistance, transmission, to triple the power, swept volume.

IV. Give English equivalents to the Russian words and expressions.

Увеличить, мощность двигателя, турбонаддув, высокая температура и давление, выхлопные газы, турбокомпрессор, полная нагрузка, частичная нагрузка, импульсный, давление воздуха, зарядка под давлением, центробежный, поршневой, двухступенчатый, осевой, передача, таким же образом, полностью отличающийся, постоянное давление, использовать, приспособиться.

V. Form adverbs using suffix –ly and translate into Russian.

General, subsequent, main, normal, mechanical, special, complete, high, full, part, quick, sudden, independent, hard, different.

VI. Translate sentences paying attention to modal verbs and their equivalents.

1. The power output of any engine can be increased by burning more fuel in the cylinder.
2. The fuel pumps must have a definite phase relation to the engine crankshaft.
3. All engine parts may be removed and replaced easily.
4. The worn rings have to be replaced by new ones.
5. When the wear reached the allowable level the cylinder had to be rebored and resurfaced.
6. To burn more fuel more quantity of air should be supplied.
7. These valves were to be pressure tested.

VII. Translate from Russian into English.

1. Наддув – это процесс, посредством которого цилиндр двигателя заряжается воздухом под давлением.

2. Двигатель с наддувом работает на повышенном уровне давления.

3. Выхлопные газы приводят в движение турбину.

4. Существует два типа двигателей: двигатели с обычным всасыванием и двигатели с наддувом.

5. Турбина приводит воздушный компрессор, который увеличивает давление воздуха.

6. Турбонаддув бывает импульсный и постоянного давления.

7. Преимущество импульсного наддува в том, что двигатель быстро приспосабливается к неожиданным изменениям в нагрузке.

VIII. Answer the questions to the text.

1. What is a purpose of supercharging?

2. What is a turbocharger?

3. What's the difference between normally aspirated engine and turbocharged engine?

4. What does the rotation of the rotor depend on?

5. What permits the combustion of a larger quantity of fuel?

6. What is the result of this combustion?

7. What is the disadvantage of the pulse turbocharging?

Вариант 12

I. Read and translate the text "Air Starting System" into Russian.

Although all small engines and some fairly large ones used in connection with electric drive are started by electric motors? In connection with electric drive are started by electric motors, the method almost used for starting engines of more than 200 h. p. is by admitting air at 250 to 400 lb. pressure to the cylinders through timed valves. Air for this purpose is provided at any convenient point in the engine room and connected to the starting valves in the cylinder heads. This compressor is of two-stage construction because of the lower pressure to be handled. In some cases the compressor is built into the engine but driven by gears, chairs, or V-belts, and in most installations, especially of large engines, it is independently operated, usually by an electric motor but in some cases by a separate auxiliary engine. Since the maintenance of an adequate supply starting air is vitally essential, the air compressors must be installed in duplicate. If an attached compressor is used, a small independent unit must be provided; if no attached compressor is used, two and sometimes three units are installed. In order to eliminate the possibility of the compressor's not being started in time during extended periods maneuvering, automatic controls should be installed that will start and stop the compressors in accordance with pressure changes in the air tanks. Although every air starting system uses timed valves in the cylinder heads for admitting air into the cylinders at the right point in the cycle, there are several different methods in use for operating these valves. In every case the air main leading from the tanks is connected to each starting valve, but air is turned into these lines only during the times when the valves are in operation. In one arrangement the valves are operated by cams and levers, the levers being mounted on eccentric fulcrum bearings. Normally the rollers are held up clear of the cams but, when the eccentric bearings are rotated by the control gear, which at the same time operates to open the valve that admits air to the lines leading to the cylinders, the rollers drop onto the cams and the valves open and close in accordance with their timing under the influence of the cams and valve levers. In another arrangement the starting valves in the heads are simply spring-loaded valves that open when air pressure in the valve body exceeds the spring pressure. Air is admitted to the valves at the right times by

cam – operated control valves in a control unit at the operating station. In other designs the starting valve is operated by a piston in a cylinder incorporated in the valve body. Air is admitted to this cylinder through a small pipe line leading to a timed pilot valve in the control unit at the operating station. In every case the maneuvering gear is arranged so that air from the tanks is automatically turned on when starting controls are moved to the start position, and cut off when they are moved to the run or stop position.

II. Translate into Russian.

Almost universally used, 200 h.p., at 250 lb. pressure, timed valves, to discharge air to tanks, at any convenient point, two-stage compressor, to be handled, to be driven by gears, v-belts, chains, a separate engine, an adequate supply of air, to be installed in duplicate, attached compressor, automatic controls, pressure changes, air main, leading to, arrangement, by cams and levers, accentric fulcrum bearing, to hold up clear of the cams, control gear, to drop onto the cam, simple spring-loaded valves, to exceed spring pressure, control unit, operating station, maneuvering gear, to be arranged so that, cut off, turn on, run position, stop position, to be in operation.

II. Find English equivalents in the text.

Запустить двигатель, для этой цели, удобное место, машинное отделение, конструкция, из-за, более низкое давление, в некоторых случаях, встроен, особенно, работает независимо от двигателя, отдельный, так как, жизненно важный, чтобы, в соответствии с, несмотря на то что, в нужное время, в каждом случае, в обычном состоянии, не касаться, в это же время, в соответствии с, в каждом случае, положение «пуск», «работа», «стоп».

III. Complete the sentences.

1. This compressor is … unit.
2. All the diesel engines are started by …
3. The compressors can be driven …
4. If an attached compressor is used …
5. Automatic controls will start and stop the compressors …
6. Timed valves in the cylinder heads are used for …
7. The levers are mounted on …

8. The air main is connected …

9. Spring-loaded valves open when …

10. The air starting valve is operated by …

11. Air is admitted to …

12. Starting controls are moved … and cut off …

IV. Read abbreviations in full and translate them into Russian.

450 lbs, 2.100 h.p., b.h.p., 28 in, 64 psi, etc., i.e., 30ºC, 100ºF, cu. ft., H.P., LP.

V. Translate from Russian into English.

1. Откройте нагнетательный клапан на циркуляционном насосе.

2. Проверьте давление в ресивере пускового воздуха.

3. Откройте вентель на трубопроводе подачи топлива.

4. Включите насос охлаждающей воды.

5. Проверьте давление масла.

6. Прокачайте систему пускового воздуха, чтобы удалить влагу (воду) и смазать все клапаны системы.

7. Проверните коленчатый вал двигателя на 1 оборот и убедитесь, что все движущиеся части работают свободно.

VI. Ask questions to the following sentences.

1. Wear of the piston can be corrected by grinding the piston to a smaller diameter.

2. The bearings may pound when the engine is being shut down.

3. Oil reaching the piston pin flown out through from three or five drilled passages to

spray upon the piston surface.

4. One of the two methods of cooling the interior of a piston crown is to circulate lubricating oil through a tube into a chamber formed in the piston crown.

5. Thin liners in certain conditions are better than thick ones.

Вариант 13

I. Read and translate the text “ *Preparations Prior to Starting the engine*”

Directions for operation and maintenance of engines can be given with much greater definiteness if intended for a single make or design. Nevertheless some directions are given here, which are of fairly general application. Even where they are not directly applicable, they may be suggestive as to what can be done in the particular case. If the engine has not been operated since an overhaul:

1. Make a thorough inspection to insure that all bolts have been properly set up, and that all devices for preventing the loosening of nuts and pins by vibration have been installed.

2. Examine the piping connections to make sure that they have been properly made up –this is especially important in the case of high-pressure air piping because serious injury to personnel may result if air should be turned into a disconnected pipe.

3. Go over the entire engine carefully to find any tools or other objects that may have fallen into the working mechanism.

4. With the compression released, jack the engine over by hand several times.

5. Check the cooling system:

(a) Open the vents at the high point on the cooling system.

(b) Fill the engine jacket spaces completely.

(c) Be sure that there is an adequate supply of cooling water available before the engine

is started.

6. Before the engine is closed, examine the lubricating system:

(a) See that no rags or other material have been left to plug piping or oil channels.

(b) Check the oil sump for the presence of water.

(c) Make sure that the oil is at the required level for engine operation.

If the engine is being started after a routine securing, the checking does not have to be as extensive as just after an overhaul, but the operator must:

1. Make certain that the moving parts of the engine are free.

2. See that the cooling system is full of water.

3. Check the lubricating oil in the supply sump.

4. Operate the hand or stand-by lubricating pump before or while the engine is being jacked – to cover all journals and bearings with a film of oil before the engine is started.

5. Clean the filters before starting the engine if they are not cleaned during operation routine.

6. Supply oil to all hand lubricated parts.

7. Test low-pressure oil alarm.

8. Fill the engine fuel-oil system.

9. Make sure that no water is present in the fuel.

10. Prime the fuel pumps and line through the priming arrangements, and make sure that all air is expelled.

11. With the stand-by or hand-operated lubricating oil pump in operation before turning

the engine, jack the engine at least one full turn and disengage the jacking gear.

12. Open the sea-injection and overboard valve, and operate stand-by sea-water circulating pump.

13. See that there is an adequate flow of water through the cooling system.

14. Make sure that the controls are in stop position.

15. If engines are of reversing type, set the reverse gear in proper position.

II. Give synonyms to the following words.

Operation, rapid, application, sufficient, prior, thoroughly, instrument, several, flow, position.

III. Give opposites to the following words.

To start, improperly, loose, unimportant, disconnect, clean, to open, slowly.

IV. Translate the following groups of words.

High-pressure air piping; low-pressure oil alarm; air-starting flask; hand-operated lubricating oil pump; stand-by sea-water circulating pump.

V. Translate the following sentences into Russian, paying attention to the Nominative with the Infinitive construction.

1. Any internal-combustion engine is said to have a four-stroke cycle or a two-stroke cycle, according to whether it receives a working impulse on the piston every other revolution or every revolution.

2. After operating in one direction until everything is found to be in good order the engine should be reversed to try out the reversing gear.

3. Frames have been known to crack, and the remedy is either to install a new frame or to weld the old one.

4. Insufficient lubrication can probably be considered to be the basic reason for all scuffing, but there many reasons for insufficient lubrication, disregarding the most apparent –no oil in the crankcase.

5. If an injection valve happens to be in the open position, the air pressure in that cylinder may cause the engine to turn quickly through part of a revolution.

6. Correct clearance of adjustable piston-pin bearings may be obtained by removing enough shims to make the bearings bind slightly and then replacing the thinnest possible shim.

Вариант 14

I. Read and translate the text “Inspection Routine” into Russian.

Cleanliness is a big asset in the operation of your equipment, for it is our observation that operators in a clean, well- kept engine- room seldom report trouble. Clean and inspect your engines and the auxiliary equipment regularly.

DAILY INSPECTION.

Under engine is running. Check the level in the clean fuel oil storage tank. The level of the lubricating oil in the sump tank it is running should be to the "engine running full" mark on the gauge. The level when it is not running should never be above the "engine stopped max" mark. Be sure there is sufficient water in the expansion tank of the cooling system. Inspect the sea water supply system. Open the vents on the fresh water system during each watch to relieve the air. Rotate the cleaning handles of the fuel and lubricating oil filters 2 or 3 revolutions every 12 hours. Check the temperature of the oil from the generator bearings. Take readings of all gauges, thermometers and meters at regular intervals. Precede as is recommended in the instruction.

PERIODIC INSPECTION.

Check the hold down- bolts on the engine and generator.

Remove the side covers enclosing the injection pumps and nozzles and make certain that the control racks of each pump move freely. Clean and inspect for wear all external leakage. Check the operation of the overspread governor trip mechanism by pushing the emergency stop button. Be certain that the control racks of the injection pumps move to "no fuel" position,

EVERY YEAR OF OPERATION-

In addition to the inspection and cleaning as outlined under the preceding paragraphs, the following equipment and engine parts should be included. Automatic timing device-disassemble, clean and inspect the parts. Camshaft Bearings-disassemble and inspect the bearings. Coolers- Fresh Water Jacket- Lubricating Oil- service as outlined in the instructions. Precede as is recommended in the instructions. While the details of the watch routine must necessarily vary with different types of engines, some of the things that are included in a typical routine are as follows:

At Least Once Each Hour:

1. Turn all injection and exhaust valve stems at least one-half turn to prevent sticking.

2. Examine all cam rollers and see that they are free to turn.

3. Open vent cocks on top of cylinder covers and air compressors to vent air from jacket spaces. This is particularly necessary when reciprocating water pumps with shifting valves are used.

4. Feel air starting pipes close to cylinder covers. Abnormal heating indicates leaking

starting valves.

5. Read all thermometers and gauges and record readings.

6. Examine cylinder cover joints and air line joints for leaks.

7. Open hand hole doors in housing, look for smoke and listen for knocks.

8. Examine mechanical lubricators and time their feed.

9. Blow water out of spray air bottles.

Once Each Watch:

1. Clean fuel and lubricating oil strainers.

2. Pump bilges.

3. Sound and record readings of all oil tanks.

4. Wipe down engines and clean engine room thoroughly.

Once Each Day:

1. Take set of indicator cards.

2. Filter one batch of lubricating oil.

3. Record fuel and lubricating oil consumption.

I. Answer the questions.

1. What does daily inspection include?

2. What should the engineers pay attention to periodically to have the engine well-operated?

3. What should the watch engineer do during the watch?

II. Translate the following words and expressions.

По крайней мере, при работающем двигателе, спустить, пол оборота, убедиться, трогать, рядом, утечка, показания, продуть, сетка, прокачать

тщательно, расход, система подачи, аварийный, механизм аварийного отключения.

Ш. Give synonyms to.

Rotate, inspect; spray; apply; differ, write; measuring device; supply; search; connections; tube.

Вариант 15

I. Read and translate the text "Maintenance"

The condition of the cylinder bore is one of the main factors affecting the operation of a high speed oil engine. When excessive lubricating oil consumption or excessive blow- by is observed the cylinder heads should be removed and the cylinder bores checked for wear. This requires accurate measurements by means of a dial indicator gauge, since the wear is in any case only in thousandths of an inch. When the wear has reached the allowable maximum, the cylinder must be rebored and resurfaced or have a new liner fitted depending on the design. In this connection, maker's instructions should be followed strictly, and great care must be taken, particularly in case of reboring, to ensure that the alignment of the engine is maintained. Some engines particularly highly- rated engines, or engines using unsuitable lubricating oils, may have a tendency to form lacquer deposits on the bores. These lacquer deposits are in nature of a hard varnish, dark brown or black. They prevent the efficient sealing of the cylinder and by causing blow- by lead to excessive wear and increase friction. Any such deposits noticed when the cylinder head is off, should be carefully cleaned away, taking care not to damage the surface of the cylinder bore. On two- stroke engines sludge and carbon deposits may tend, after a period, to foul the ports. Access doors for cleaning, are usually provided, and the ports should be cleaned out to maker's instructions at periods varying from 300 to 1,000 hours according to the design and duty. Periodic examination, particularly at major overhauls, should be made for water leakage. If water leaks into the lubricating oil, there is a serious risk of internal rusting and corrosion with excessive bearing wear and possibly even seizure. Any water leaks should be cured as soon as noticed.

II. Answer the following questions.

1. What is one of the main factors affecting the operation of a high- speed oil engine?
2. What should be done when the wear has reached the allowable minimum?
3. What's the result of using unsuitable lubricating oil?
4. What happens if water leaks into the lubricating oil?

III. Translate these sentences into Russian, paying special attention to the modal

verbs meaning.

1. The future P 90 GFC engine will be able to achieve specific fuel consumption of 131 g/b.h.p.h. at m.c.p.
2. The engine is built as a direct- reversible unit or can be equipped with a hydraulically
operated reversing gear.
3. Relatively few alterations had to be made with the engine itself.
4. This type of engine is to be built in two series, each from four to twelve cylinders.
5. A great care should be taken with the design of the upper cylinder liner collar.

IV. Translate into English using words and expressions from the text.

1. Отложения лака мешают эффективному уплотнению цилиндра.
2. Износ, в любом случае, только в тысячных дюйма.
3. Если используется неподходящее масло, на стенках цилиндра образуется лакообразный нагар.
4. Износ цилиндра можно измерить индикатором с круговой шкалой.
5. Любые протечки воды надо устранять как можно быстрее.
6. Попадание воды в смазочное масло может привести к ржавлению и коррозии внутри двигателя.

V. Give the detailed answers.

1. What factors affects the operation of an engine?
2. What facts show us that cylinder bore is worn?
3. When does reboring become necessary?
4. What is the nature of lacquer deposits?
5. What factors lead to excessive cylinder wear?
6. What deposits way foul the ports?
7. How can access to ports be arranged?

VII. Retell the text using the key sentences.

Вариант 16

I. Read and translate the text “Location of Troubles”

Below are set out the various troubles most likely to be encountered, together with their causes and remedies.

Engine Will Not Start

1. Not turned fast enough by hand. Try to continue turning after the valve lifter had been dropped. There is no danger of backfiring as with petrol engines. See that the reverse gear is in neutral.

2. Loss of compression.

a) Sticky valves. Remove and clean the valves spindles, and if necessary, polish with fine emery cloth.

b) Insufficient valve clearance. Check the valve clearances.

c) Valve seatings not tight. Examine these, and if they show sign of being pitted and are not seated properly, they should be slightly ground in.

d) Dry piston after standing. Pour a small quantity of lubricating oil into each air intake.

3. Air in the fuel system.

Engine Runs Irregularly

1. Sticky valves.

2. Dirty atomizers.

3. Air in the fuel system.

4. A fuel- pump delivery valve has stuck up.

5. Remove the delivery valve. If the delivery valve is found to be stuck, it will be due to dirt, and carefully cleaning the valve and its guide it should move freely. On no account must emery paper or powder be used.

6. Water in the fuel.

7. Drain all parts of the fuel system, including the fuel pump and fill up with clean fuel.

8. Fuel filter chocked.

9. Remove and wash.

Engine Knocks.

1. Time of injection is incorrect. Check and reset, if necessary.

2. A bearing is loose. Examine all bearings and adjust, if necessary.

3. A piston is seizing. See that the engine is not being over loaded. Examine the pistons and smooth up any rough parts on the pistons and in the liners.

4. Carbon on the pistons hittings the cylinder heads. Decarbonize.

Note:

If the engine is heard to be knocking at any time it must be slowed down at once, and if possible stopped and the cause investigated. On no account must it be allowed to continue running, except at a greatly reduced speed.

II. Test your comprehension answering the following questions.

1. Why cannot the engine start?
2. What should you do if the valves are sticky?
3. What should be done if you find the piston to be dry?
4. What causes the engine to run irregularly?
5. Explain how to eliminate the troubles of such running?
6. What troubles can water in the fuel cause?

III. Translate into English.

Поршни заклинило; реверсный механизм, снять крышку, заедание клапана, нагнетательный клапан, почистить, наждачная бумага; фильтр забит; спустить воду (масло); отполировать поверхность; провисать; грязный фильтр, герметичность; несвоевременный впрыск; причина перегрева, потеря давления сжатия; из-за грязи, продолжить работу, сильно изношенный.

IV. Give synonyms to the following words.

To eliminate, to go on, fast, to fall, to stick, to polish, to check, amount, every, thanks to, to operate, to decrease, to regulate, injection, to tune, to fit.

V. Give antonyms to the following words.

Slow, to remove, expansion, dirty, necessary, fine, dry, after, to stick up, loose, reduce, rough, head, to stop.

VI. Put the verbs into the proper form.

1. The piston rings and cylinder liner (to wear) badly.
2. Water sometimes (to get) into the fuel oil.
3. A warm engine (to require) only two revolutions on air to start.
4. The piston and cylinder walls (to cool) during scavenging.

5. The air (to supply) pre-compressed and cooled.

VII. Ask as many questions as you can.

1. The lubricating oil pump delivers oil through a filter before it is fed to any working part.

2. The crankshaft has bored ducts conveying the forced lubrication oil to all bearings.

3. Frames are sometimes called "crankcases" for the reason that the frame walls enclose the cranks and connecting rods.

VIII. Make up your own sentences with the following words.

To be overloaded, sticky valve, the burnt exhaust valves, to inspect, a loose bearing, to fill up, to remove, to reduce engine speed, piston rings.

Вариант 17

I. ***Read and translate the text "Location of Troubles"***

Engine Overheats

1. Water circulation defective.

See that no foreign matters have collected over the sea intake, in the sea-cock strainer, or in the suction piping. Inspect the valves in the pump and see that there is no grit on the seats and that they are seating properly.

2. Time of injection is incorrect.

Check and reset, if necessary.

Engine Stops of its One Accord

1. Dirt in fuel filter or other parts of fuel system. Investigate and clean.

2. Water in the fuel.

3. Fuel tank is empty.

4. A fuel pump delivery valve has stuck up.

5. A piston has seized. Dismantle, examine, and smooth up any rough parts on the piston and in the liner.

6. The propeller is fouled. Inspect and remove any ropes or other objects which have become entangled.

Heating of Stern tube or Intermediate-shaft Bearing

1. Misalignment.

Check and, if necessary, re-align the engine and intermediate-shaft bearings, if any, from the tail shaft half-coupling.

2. Tight stern tube packing.

Try slackening the nuts holding the glands slightly. If the gland cannot be eased without

causing leakage, the packing has become hard and should be renewed.

3. Damaged propeller.

Examine the propeller to see that it has not become damaged to such an extent as to throw it appreciably out of balance. If necessary, the propeller must be repaired or renewed.

II. Answer the questions.

1. What causes the overheating of the engine?

2. Why can the engine stop of its own accord?

3. What are the reasons of stern tube heating?

4. How can you eliminate the above troubles?

III. Give English equivalents to Russian words and expressions.

Инородные вещества, перегрев, фильтр, гнездо клапана, пустой танк, поршень заклинило, смещение, муфта, нельзя ослабить, не вызывая течь, плотная набивка, циркуляция воды, время впрыска топлива.

IV. Give antonyms to the words and make up sentences with both opposites.

Dirty, fast, continue, drop, danger, tight; dry, fill up; badly; cylinder head; slow down, reduced speed.

V. Translate sentences into English.

1. Проверьте уровень масла.

2. Отверстия в поршне засорились.

3. Поршневые кольца сильно изношены.

4. Слегка ослабьте гайки.

5. Набивку следует заменить.

6. Выровнять шероховатости на втулке цилиндра.

7. Перезаправьте топливную систему.

Вариант 18

I. Read and translate the following texts to get some more information about engine designs of different makers.

General Information about Burmeister and Wain Engines.

The present B. and W. marine engines are all exhaust turbo charged, the power output of which is one- third more than that of the corresponding normally aspirated engines for the same number of revolutions per minute. The reduction of fuel consumption with a turbo charged engine is of 3 per cent. The engine is a single- acting, two- stroke cycle, exhaust poppet- valve type and finds a wide application all over the world. The design is a true crosshead engine, i.e. one in which the crankcase is completely separated from the cylinder. Scavenging air enters the cylinder through a row of ports located in the lower part of the liner. The scavenge air is given a swirling motion. The exhaust gases are expelled through the poppet valve centrally arranged in the cylinder cover. The structural components of the engine type consist of the bedplate, «A» frame and scavenging air receiver. These together form a rigid longitudinal girder which supports the cylinder units. For engines of cast iron construction, vertical mild steel through- bolts are provided. They extend from the top of the cooling water jackets to the bottom of the bed plate cross girders. The crankshaft may be fully- built or semi- built depending on the number of cylinders and torsional vibration characteristics of the system. The main bearing steel shells are lined with white metal, the bearing keeps are of cast steel. The connecting rod bottom-end top-end bearings, also the cross-head shoes, are of cast steel lined with white metal. There are two camshafts. One operates the fuel injection pumps, the other actuates the exhaust valves through cams, rollers, roller guides, push rods and rockers. A fuel injection pump is provided for each cylinder and it's cam- operated through a roller and roller guide from a camshaft. The cylinder covers are made of chrome – molybdenum cast steel and are bolted to the cooling water jackets. The liners are of very simple design made of alloy cast iron. Two fuel valves, a starting valve, a safety and exhaust valves are arranged in the cylinder cover. The cylinder covers, c. liners and exhaust valves are fresh water cooled. The pistons are of a simple design with crowns of chrome- molybdenum cast steel and skirts of cast iron. The pistons are oil- cooled

from the forced lubrication system. The B. and W. turborchavging system for two-stroke cycle engines is a flunctuating pressure system.

II. Answer the questions.

1. What is the power output of the pressure- charged engines?
2. What are the main particulars of the B. and W. design?
3. In what way are the cylinders scavenged?
4. How is the fuel injection pump operated?
5. What material are the cylinder covers made of?
6. What valves are arranged in the cylinder cover?
7. What pistons are used in the engine?

III. Translate the following words and expressions into Russian.

Exhaust – turbocharged, normally aspirated engine, reduction of fuel consumption, a single – acting, exhaust poppet valve, cross head; a swirling motion, to expell, centrally arranged, a bedplate, a frame, rigid longitudinal girder, steel through bolts, to provide, fully- built; semi-built; torsional vibration, to operate, to actuate cylinder cover, cylinder head, the crown, the skirt, a flunctuating pressure system.

IV. Form nouns from the following verbs.

To inject, to arrange, to vibrate, to connect, to operate, to revolve, to reduce, to apply, to locate, to separate; to receive, to support, to cool, to heat, to operate, to inject, to actuate;

to press, to measure.

V. Translate sentences into Russian. Pay attention to the Ving translation.

1. Fuel delivery is regulated by varying the effective stroke- volume of the pump.
2. The second row of scavenging ports is closed by mechanically driven valves.
3. When operating the pistons move simultaneously either towards each other or away

from each other.

4. No essential results having been obtained, the scientists had to carry out some more

experiments.

5. Manoeuvring is carried out by a single lever for starting and reversing, the second lever

being provided for controlling the speed of the engine by adjusting the fuel supply.

6. In engines having more than six cylinders the crankshaft is built up in two parts.

VI. Give English equivalents to Russian words.

Система продувки, продольная балка, рамовый подшипник, коренной подшипник,

башмак крейцкопфа, составной каленчатый вал, расходный танк, головка поршня крейц-копфного двигателя, юбка (верхняя часть) поршня, сплав, чугун, литая сталь, прокован-ная сталь, сварочная сталь, смазка под давлением, пульсирующее давление, в два раза больше чем, широко использоваться, расположенный в центре.

VII. Translate into English.

1. Турбонаддув увеличивает мощность двигателя.

2. Такие двигатели расходуют меньше топлива.

3. В двигателе крейцкопфного типа картер полностью отделен от цилиндра.

4. Подъемный клапан расположен в крышке цилиндра.

5. Один из кулачковых валов регулирует работу выхлопных клапанов через систему кулачков, роликов, их направляющих, толкателей и коромысел.

VIII. Ask as many questions as you can.

The New Four-stroke Diesel Engine Type 65/65 is a Common Development from M.A.N. and Sulzer Brothers Design Features.

Вариант 19

I. Read and translate the text into Russian.

The engine can burn heavy fuel and will be built as a reversible and nonreversible prime mover. The engine frame consists of a crankcase of fabricated design and cast cylinder blocks. The demand that the cast components must be of limited weight and volume to simplify the casting procedure and that the crankcase must be built in one-piece had a great influence on the design.

Crankcase.

The main bearings of the crankshaft are located in the cast steel cross girders which are welded into crankcase. These results in a favourable flow of the ignition forces. By using suitable devices, the dismantling and fitting of the bearing can be carried out easily. The camshaft drive which is situated on the coupling side, is integrated into the crankcase. The gear wheels have a long service life due to the shift and vibration-free seatings. The torsional vibration damper fitted on the crankshaft on the opposite side of the coupling is located within the crankcase. Large openings in the crankcase guarantee good accessibility to the moving parts and bearings.

Cylinder block.

The row of cylinder blocks made of cast iron are very resistant to corrosion. For all cylinder numbers the rows of cylinder blocks are of three sections with end pieces for two cylinders each at the aft and forward side. The rods which are parallel to the cylinder axis relieve the castings of tensile stresses. The cylinder blocks and sections are built as stiff brackets, so that the turbochargers can be mounted on the coupling side or on its opposite.

Technical data are as follows:

Bore …….. 650 mm

Stroke …… 650 mm

Piston displacement …….. 216 lit/cyl

Output ……1600 bhp/cyl (1180 kw/cyl)

Speed ……. 375 rpm

Mean piston speed …… 8,12 m/s

Mean effective piston pressure … 17, 8 kg/cm2 (17, 5 bar).

II. Translate words and words – expressions into Russian.

Four- stroke diesel engine, design features to burn heavy fuel, a reversible prime-mover, engine frame crankcase, limited weight and volume, main bearing, cast steel cross girders, dismantling of the bearings, camshaft drive, torsional vibration damper, cylinder axis, tensile stresses, stiff brackets, accessibility to moving parts, gear wheel.

III. Translate into English.

Вес и объем, привод распредвала, гарантировать доступ, цельный картер, чугунная балка, крутильные колебания, среднеэффективное давление газов, диаметр цилиндра, выходная мощность, гарантировать доступ, четырехтактный двигатель, установка, ось цилиндра, разборка.

IV. Say in English.

Bhp/cyl; kw /cyl; r.m.p., m /c, m.m., kg/cm2, h.p., H.P, L.P, V- form.

V. Ask questions to the sentences.

1. The fuel ignited because of the high temperature of the compressed air.
2. To settle the problem of the engine weight they improved some of its parts.
3. The charge- air compressor and exhaust gas turbine are combined to form supercharging unit.
4. The engine is offered with 6, 8&9 cylinders in line and 12&16 cylinders in V-form.
5. The cylinder head carries two inlet and exhaust valves.
6. The rods relieve the castings of tensile stresses.

VI. Give nouns from the words and translate them.

Reversible, favourable, suitable, accessible, available, reliable, movable.

VII. Translate into Russian.

1. The rods were introduced to relieve the welded structures of the large ignition forces reaching several hundred tons in large engines.
2. To improve running of the piston rings and reduce wear the pistons run in soft-nitrited cylinder liners.
3. The cams with double contour allow the camshaft to be moved axially by hydraulic servo without the need to lift tappets (палец).

4. Most of the components are readily (without any trouble) accessible and special purpose handling equipment is available to reduce overhaul time.

5. The row of cylinder blocks made of cast iron are very resistant to corrosion.

VIII. Translate into English.

1. Цилиндровая втулка состоит из двух частей.

2. В конструкции поршня предусмотрено охлаждение смазочным маслом.

3. Крышка цилиндра оснащена двумя впускными и двумя выпускными клапанами.

4. Клапанами управляют кулачки со спаренными коромыслами.

5. У этого двигателя необычная конструкция.

6. Для интенсивного охлаждения просверлены отверстия.

IX. Answer the questions.

1. What fuel can this fuel burn?

2. What are the main technical data of the engine?

3. What demand had a great influence on the design?

4. What location of main bearings results in a favourable flow of the ignition forces?

5. Where is the camshaft drive situated?

Вариант 20

I. Read and translate the text "Akasaka 8 U 50 Engine"

The engine is built to operate at such a speed that it doesn't require to be coupled to a reduction gearbox. The Akasaka 8U50 engine is a trunk piston medium- speed unit which is produced in eight in- line cylinders and develops its rating of 813 b.h.p./cylinder at 340 rev/min. This machine is a development of Akasaka's earlier 6U50 machine which, though of less cylinders, was rated at 917 bhp/cylinder at 340 rev/min. The Akasaka 8U50 engine is a four- stroke machine with two inlet and two exhaust valves which are actuated by rockers. The machine operates on low- grade heavy fuel and, because of that, the exhaust valve seats are arranged for fresh water cooling. The pistons are of the built- up type with an alloy steel crown and cast iron skirt; cooling is by system lubricating oil. The entire construction of the engine including the bed plate, cylinder block and cylinder covers, is of cast iron. The bed plate is cast in two pieces and clamped together by horizontal stay bolts at the centre of No, 6 cylinder. The crankshaft is of the solid type, balance weights are fitted on each crank web. It is a turbo chargers are mounted one on either end of the engine.

II. Translate the English phrases.

To operate at a speed of, is not coupled to, a trunk piston engine; to develop its rating of; entire construction, build up type; high grade fuel, low grade fuel, actuated by rockers; a development of an earlier design, to be made of cast iron, is mounted on; to be a turbo-charged engine.

III. Form a comparative degree of the following adjectives.

Small, much, early, late, good, little, low, high, heavy, comfortable, complex, effective.

IV. Give synonyms to.

Machine, velosity, pair, rating, emission, head, to install, to fix, decrease, to work out, to be connected, to run, to be designed for, comprise, whole, every

V. Say in English.

30 0C, 15 m3, 340 rev/min, 810 bhp/cyl., 120 kg/cm2.

VI. Ask questions to.

1. This engine operates at the speeds of 210 to 110 rev/min.

2. Air pressure of 7 kg/cm2 is applied to the cylinder during low load conditions.

3. Symmetrical cams were installed for fuel pumps.

4. Long stay bolts will secure the cylinder block to the entablature.

VII.Translate into English.

1. Масло подается к рамовым подшипникам.

2. Мощность этого двигателя 917 л.с. при 340 об/мин, не смотря на меньшее количество цилиндров.

3. Этот двигатель может работать на топливе низкого качества.

4. Головка поршня из стального сплава, а юбка поршня – чугунная.

5. На каждом плече кривошипа стоит противовес.

VIII. Answer the questions.

1. What are the peculiarities of Akasaka engine design?

2. What's its rating?

3. What type of engine does it concern?

4. What fuel can it operate?

5. What can you say about engine piston?

6. Where are balance weights fitted?

Вариант 21

I. Read and translate the text «Types of Diesel Engines». Check your comprehension by answering the questions.

Two-cycle and four-cycle diesel engines may be divided, according to structural arrangement, as follows: trunk-piston type, crosshead type, single-acting, double-acting, opposed-piston.

Trunk-piston and Crosshead Types

In the trunk-piston type the piston is attached to the crank by means of a connecting rod. Connection of the upper end of the rod to the piston is made by means of the piston pin, while the lower end is attached to the crankpin by means of a bearing known as the crankpin box. The horizontal component of the downward thrust of the piston, when it drives the crank, is taken by the piston and results in a side pressure against the wall of the cylinder. To provide adequate bearing so that this side pressure will have a low unit value, the piston is provided with an extended skirt, or trunk, from which this method of construction gets its name. This construction has the advantages that it reduces engine height and is cheaper than crosshead construction. It is universally used for small engines and in some cases for engines of quite large power. The crosshead type is usually confined to large engines. The piston is connected to the crosshead by a piston rod and the crosshead is in turn connected to the crankpin by a connecting rod. This construction has the advantage of relieving the piston and cylinder wall of side thrust and in the four-cycle engine permits to use a short piston. In the case of a two-cycle engine the extended piston skirt is still required in order to keep the exhaust and scavenging ports closed during the upstroke of the piston. This construction is penalized by the extra height required to make room for the crosshead and piston rod.

II. Answer the questions:

1. How is the piston attached to the upper and lower ends of the connecting rod in the trunk-piston engine?
2. What advantages does this engine have?
3. What advantage does the crosshead type engine have?

III. Переведите предложения на английский язык:

1. В холодную погоду двигатель перед пуском следует прогреть.

2. После пуска двигателя его работу проверяют по показателям контрольно-измерительных приборов.

3. Особое внимание следует обратить на работу систем смазки и охлаждения:

4. Перед пуском двигатель должен быть тщательно осмотрен.

5. Убедитесь, что в топливе нет воды.

6. Необходимо опробовать системы смазки и охлаждения до пуска.

7. Информируйте мостик о готовности двигателя.

8. Повышение температуры в системе смазки показывает, что подшипники перегрелись.

9. Записи в машинном журнале должны производиться по крайней мере каждый час.

IV. Перевести словосочетания на русский язык:

damaged exhaust valve seat

worn ring groove

to cut off from

to weld in place

to use heat

grinding

wear rate

shut-off fitting

ultrasonic test

to verify the scope of work

ПРИЛОЖЕНИЕ 11

Практические работы по Разделу 2

«Профессиональные темы. Электрооборудование и инструменты»

по учебной дисциплине Иностранный язык
(наименование дисциплины)

Составитель _____/Е.Н.Горшкова/
(подпись)

Вариант №1

I. Translate the text.

The nature of electricity

The ancient Greeks knew that when a piece of amber is rubbed with wool or fur it achieves the power of attracting light objects. Later on the phenomenon was studied, and, the word *electric,* after the Greek word 'electron", meaning amber was used. Many scientists investigated electric phenomena, and during the nineteenth century many discoveries about the nature of electricity, and of magnetism, which is closely related to electricity, were made. It was found that if a sealing-wax rod is rubbed with a woolen cloth, and, a rod of glass is rubbed with a silken cloth; an electric spark will pass between the sealing-wax rod and the glass rod when they are brought near one another. Moreover, it was found that a force of attraction operates between them. An electrified sealing-wax is repelled, however, by a wax rod, and also an electrified glass rod is repelled, by a similar glass rod.

The ideas were developed that there are two kinds of electricity, which were called resinous electricity, and that opposite kinds of electricity attract one another, whereas similar kinds repel one another.

II. Write out from the text the sentences with verbs in the form of the Participle or the Gerund or the Subjunctive mood.

III. Answer the following questions:

1. When was found electric phenomena?
2. What does a force of attraction mean?
3. What kinds of electricity are there?

IV. Supply *some, any, no,* where required

1. ... pupils went to the river, ... to the woods. 2. ... of my friends live in Moscow. 3. ...Have you ... English dictionaries? 4. Is there ... ink in the inkstand? Yes, there is... 5. Bring ...chalk, please. 6. There is ... chalk in the box. 7. Is there ... milk in the jug? Yes, there is

V. Fill in blanks with the Past Progressive or the Past Simple Tense of the verbs in margin.

1. We ... to a lecture yesterday at ten o'clock. listen
2. She ... the piano from 11 till 12 o'clock. play
3. When he ... in, I ... my exercises. come, do
4. What ... you yesterday at 8 o'clock? do

5. Yesterday when I ... the newspaper, my sister ... to a concert over the radio. read, listen
6. She ... out of the window when I ... her. look, see
7. I ... along the street with my friend when the car ... by. walk

VI. Choose the correct variant

1. Before you ____, don't forget to lock the door.

-are leaving -will leave -leave -shall leave

2. Please do not speak to anyone before the police ____ .

-come -are coming -'ll come, came

3. His parents will be very glad if she____ the university.

-enter -'ll enter - enters - entered

4. When you ____ my brother, you ____ him.

-'ll see; - won't recognize; - see won't recognize; -saw, recognize; -'ll see, don't recognize

5. We won't discuss the matter until the headmaster _____ .

-'ll arrive - won't arrive - doesn't arrive- -arrives

Вариант №2

I. Translate the text:

What is electricity?

Have you ever gotten a shock when you touched a doorknob, or seen sparks fly when you combed your hair? That's electricity.

Electricity is a type of energy that gives things the power to work. This energy comes from electrons. Scientists have learned how to use electrons to produce electricity.

Classes of electricity.

The study of electricity may be divided into three classes or branches: magnetism, electrostatics, and electrodynamics. Magnetism is the property of the molecules of iron and certain other substances through which they store energy in a field of force because of the arrangement movement of the electrons in their atoms. Electrostatics is the study of electricity at rest, or static electricity. Examples of this type of electricity are charges on condenser plates. Rubbing glass with silk produces static electricity. Electrodynamics is the study of electricity in motion, or dynamic electricity. The electricity which flows through wires for light and power purposes is a good example of latter type of electricity.

II. Write out from the text the sentences with verbs in the form of the Participle or the Gerund or the Subjunctive mood.

III.Translate the text:

Оборудования работающего на основе использования возобновляемых источников энергии для автономного тепло- и электроснабжения частных домов и зданий. С его помощью можно частично или полностью покрыть энергозатраты практически любого объекта.

- солнечные вакуумные водонагреватели для круглогодичного производства горячей воды
- ветрогенераторы для выработки электроэнергии.
- солнечные фотоэлектрические батареи и товары на их основе – зарядные устройства, фонари.
- энергоэффективные светодиодные лампы

IV. Fill in the blanks with the articles *a, an, the,* where necessary.

We live in ... nice flat ... new house near ... park. ... flat is on … second floor. There are ... two rooms in it. We have also ... kitchen and … bathroom. ... kitchen is ... big enough. As ... rule, my mother cooks for us. We spend ... lot of ... time together in ... kitchen. There is ... TV set in

... corner of ... kitchen, and we often watch ... TV there.

V. Replace the infinitives given in brackets by the Future Progressive or the Present Simple:

1. The delegation (to start) for London as soon as they (to receive) their visas.
2. At the travel bureau they (to tell) you exactly when the train (to leave).
3. Ask the Smith if it (to take) him long to make a duplicate of this key.
4. I (not to think) I (to be able to) call on them and (to say) good-bye before I (to go) abroad.
5. If you (not to want) to climb the tree you can shake it and the apples (to fall) down to the ground.
6. If I (to go) to Moscow I usually (to stay) at my friends.
7. Ask him when he (to. finish) packing.

VI. Переведите предложения. Определите, какое значение приобретают выделенные слова в контексте следующих предложений.

1 .The soldier is now at his **post**. 2. The man did his best to get a better **post**.3.I will send you the book by **post**. 4. The wooden gate was supported by two metal **posts**.

Вариант № 3

I. Translate the text.

Electroscope

An electroscope is a sensitive instrument for detecting small electric charges. It consists of a glass-jar closed with a stopper of insulting material in which is fitted a varnished glass-tube. A rod passes through the tube. At the top of the rod there is a metal ball or disc at the bottom of the rod two pieces of gold leaf are suspended. When is charge is brought near the electroscope, a charge of opposite sign is induced on the metal ball, and a charge of the same sign appears on the two of the gold leaves. Since, the two pieces of gold leaf now have charges of like sign they repel each other.

As an example a negatively charged glass rod is brought to the electroscope. A positive charge is induced on the ball and a negative charge appears on the two pieces of gold leaf.

The polarity of a charge may be determined by means of an electroscope. We charge the electroscope negatively by touching the ball with the rod of hard rubber which is rubbed with flannel or silk. If the unknown charge is brought to the electroscope it will induce on the ball a charge of opposite polarity and on the gold leaves a charge of the same polarity as that of the unknown charge. Therefore, if the unknown charge is negative, the gold leaves will repel each other; if it is positive, they will attract.

II. Write out from the text the sentences with verbs in the form of the Participle or the Gerund or the Subjunctive mood.

III. Translate the text.

ЭЛЕКТРОСКОП, прибор для обнаружения электрического заряда. Наиболее распространен электроскоп с золотыми листочками, в котором две золотые пластинки, прикрепленные к проводнику, помещены в изолированный корпус. Если к стержню проводника подвести электрический заряд, пластинки разойдутся, и степень расхождения указывает на величину заряда.

IV. Fill in the pronouns.

When Mary came to the dining room ... took off ... coat and sat down. The waitress soon brought ... some soup. When Mary finished ... dinner ... looked at ... watch, put on ... coat and went out. (Now Mary tells her little brother John what he must do when he goes to the dining room): ... must take off ... coat and sit down. Then the waitress will bring ... some soup. When

... finish ... dinner ... must put on ... coat and go out.

V. Use the Present Indefinite, the Present Perfect or the Past Indefinite.

1. You ever (to be) to the picture gallery?-Yes, I (to be). I (to visit) it once when I was a youth and the pictures (to make) a great impression on me. Since then I (not to be) here.
2. You already (to see) the new Indian film? - Yes, I (to see) it. I (to manage) to see it yesterday. I (to go) to the cinema in the evening and (to get) two tickets easily.
3. You always (to take) books from our library? - Yes, as a rule, I (to take).
4. I (not to see) Jane lately. When you (to see) her last? -1 (to meet) her two days ago. I (to think) that she (to change) very much.
5. You (to have) dinner already? -No, not yet. The waitress (to take) my order fifteen minutes ago and (not to bring) me anything yet.
6. Where you (to get) this fine new bicycle from? - My parents (to give) it to me as a birthday present.

VI. Choose the correct variant

1. I want to go shopping but if you _____ to come, you
-want, need *-not want, needn't* *-don't want, needn't* *-do want, needn't*

2. If you _____ on this tram it'll take you to the downtown.
- *'ll get* *- have got* *- got* *-get*

3. He _____ to the country tomorrow if the weather is fine.
- go -goes - 'll go -'d go

4. You'll understand nothing unless you _____ the book yourself.
- *read* *-won't read* *-don't read* *- 'll read*

5. You'll understand this rule after your teacher _____ it to you.
- *'ll explain* *- explain* *-explains* *- don't explain*

Вариант №4

I. Translate the text.

Electric currents and their properties

Conduction is the name normally given to a movement or flow of charges. The charges are usually electrons, but may also be ions when the conduction takes place in gaseous or liquid conductors, in which the ions are mobile.

How does the current flow through a wire? A metal is made up of tiny crystals which are visible under a microscope. A crystal is a regular and orderly arrangement of atoms. As it was explained, an atom is a complex particle in which tiny electrons move around nucleus. When the atoms are tightly packed as they are in a metallic solid, some of the electrons move freely between the atoms. These are called free electrons. Ordinarily, the free electrons move at random through the metal. There must be some driving force to cause the electrons to move through the metal conductor. This driving force tending to produce the motion of electrons through a circuit is called an electromotive force or e.m. f. that moves electric charges from one point in the circuit to another.

When an electromotive force is applied to the ends of a wire the free electrons move in one direction. It is the movement of the free electrons in a conductor that induces an electric current. The greater the number of participating electrons, the greater is the flow of current.

No one has ever seen analectic current. We only know of the existence of a current by its effects. A current can heat a conductor, it can have a chemical action when passing through a solution, or it can produce a magnetic effect. We can measure currents by observing their heating, their chemical, or their magnetic effects.

There are some kinds of current, namely: a direct current (d. c, for short), an alternating current (a. c.) a pulsating current

II. Write out from the text the sentences with verbs in the form of the Participle or the Gerund or the Subjunctive mood.

III. Translate the text.

Галогенные лампы стали применять и в быту, так как оказались достаточно экономичными и удобными в эксплуатации. Галогенная лампа, в сущности, является лампой накаливания, только вместо вакуума в ней находится специальная смесь, как правило, содержащая бром или йод, которая повышает светоотдачу лампы. При той же мощности, что и лампа накаливания, галогенная лампа имеет меньшие размеры, светит более ярко.

IV. Fill in the prepositions:

It was two o'clock when John went ... the dining-room to have dinner. Peter was already there. He sat ... a table with a book ... his hands. John took the menu ... the next table. When the waitress came, he ordered some soup and meat. "Can you bring me some white bread?" asked John. "Yes, of course, I can", answered the waitress, "I shall bring you some ... a minute". She came back ... a few minutes. "What will you have ... dessert?" she asked. John asked her to bring him some ice-cream. "I'm sorry", said the waitress. "It will only be ready ... half an hour".

V. Put these sentences in the Future and in the Past:

1. The tourists are shown many places of interest in our town.
2. The Moscow University is greatly admired by everybody.
3. New metro station is built in our town.
4. The poem is recited in our group.
5. We are told to wait outside.

VI. Use the Past Indefinite or the Past Perfect:

1. They (to complete) all the preparation for the fancy-dress ball by 5 o'clock.
2. On leaving the hospital the man (to thank) the doctor who (to cure) him of his disease.
3. In the morning all the passengers (to feel) good after the night they (to spend) in the comfortable sleeper.
4. During my last visit to the picture gallery I (to find) that I no longer (to like) the pictures which (to impress) me when I first (to see) them. Evidently my taste (to change).
5. Last night he (complete) the experiment which he (to begin) some months, before.
6. They (to be) friends for some ten years before I (to meet) them.

Вариант №5.

I. Translate the text.

Conductors, insulators, semiconductors Conductors are materials that have a large number of loosely bound valence-ring electrons; these electrons are easily knocked out of their orbit and are then referred to as free electrons. Insulators are materials in which the valence-ring electrons are tightly bound to the nucleus. In between the limits of these two major categories is a third general class of materials called semiconductors.

Capacity

When two insulated conductors, one of which is charged, are brought into contact, the charge spreads over both conductors. The uncharged conductor becomes charged. A larger conductor receives a larger part of the charge. The potential of the two conductors becomes the same as soon as they are brought into contact, but the quantity of electricity is not the same on each. The larger portion of the charge is on the larger conductor.

We say that the conductors have not the same capacity for electricity. The capacity of the conductor depends upon its size.

The capacity of the conductor is measured by the quantity of electricity which must be given to it in order to raise its potential to a given amount.

From this definition it is seen that if the capacity of a conductor increases while the quantity of electricity on it remains constant, its potential will become less.

Condenser

Any arrangement by which the capacity of a conductor is increased artificially is called a condenser.

II. Write out from the text the sentences with verbs in the form of the Participle or the Gerund or the Subjunctive mood.

III. Translate the text.

Техника безопасности:

Ни в коем случае нельзя одновременно дотрагиваться до бытовых приборов и заземленных предметов (водопроводные трубы, батареи центрального отопления и т. д.). Вполне возможно, что на корпус бытового прибора пробивает электричество. В последнее время все больше и больше приборов имеют заземление. Это делается для обеспечения безопасности потребителей. Такие бытовые приборы имеют трехжильный шнур и вилку с тремя контактами.

IV. Fill in the blanks with the articles *a, an, the* where necessary.

I have ... hobby. I like to cook. During my leisure time I make … cakes and pies. It is not difficult to make ... pie. Sometimes my brother helps me. He is ... good boy and we get along well with ... each other. My brother usually goes ... shopping and buys ... different things, which are necessary for ... cooking. My cakes are tasty but I like ... pies ... best of all.

V. Use the Present Indefinite or the Present Perfect.

1. As a rule I (to have) ham and eggs for breakfast, but this time I (to order) an omelet.
2. This is the house where I (to live). I (to live) here since childhood.
3. Once in a week I (to write) letters home, but I (not to write) one this week, so my next letter must be particularly long.
4. Where (to be) your monitor? "She (to go)" to the library.
5. I regularly (to see) him every morning at the tram stop, but I (not to see) him these two or three days.
6. It (to be) cold in winter in Moscow as a rule? - Yes, generally it (to be), but this winter (to be) exceptionally warm.
7. Why you (not to shave) in the morning?-I (to shave) every other day.

VI. Use the Passive Voice.

A guide will show the visitors the new buildings.

Someone told him to make a report on ancient architecture.

Mr. Smith taught her Greek and gave her a dictionary.

The teacher told John to learn the alphabet.

I will tell you another fable next time.

They invited the rest of us to go sightseeing.

The guide showed the American the Houses of Parliament.

Вариант №6

I. Translate the text.

Potential and difference of potential

Two bodies oppositely charged have a difference of potential or voltage is measured by the work required to carry a unit of positive charge from one body to another against the force of attraction or repulsion. The magnitude of the difference of potential depends upon the concentration of the charge and not on the amount of the charge.

If appositively charged body and a negatively charged body are brought in contact, electrons from the body with negative charge will move over to the body having the positive charge until an equilibrium of charge has taken place.

There is a very instructive analogy between the use of the word "potential" in electricity and "pressure" in hydrostatics. Just as water tends to flow from points of higher hydrostatics pressure to points of lower hydrostatic pressure, so electricity tends to flow from points of higher electrical pressure, or potential, to points of lower electrical pressure, or potential.

II. Write out from the text the sentences with verbs in the form of the Participle or the Gerund or the Subjunctive mood.

III. Translate technical terms and phrases.

Аналоговые электроизмерительные приборы

Амперметры, ваттметры, вольтметры, измерительные преобразователи, индукционные, счетчики, контрольно-измерительные приборы, магнитодинамические приборы, магнитоэлектрические приборы, мультиметры, омметры, приборы выпрямительного типа, термоэлектрические приборы, фазометры, ферродинамические приборы, частотомеры, цифровые электроизмерительные приборы, электрические счётчики, электромагнитные приборы, электростатические приборы.

IV. Supply *many, much* or *little, a little.*

When we came to the dining-room there were ... people there already. We sat down at a table, took the menu-card and began to read it. "I shall not eat ... today", said. "... soup, some milk and ... cake-nothing else". "I never eat very ... said Mary. "But today I am hungry, and I want to eat as ... as I can: soup, meat, fish and potatoes". "But it will take a lot of time", said Peter, "and we have very ... time, you know. We have ... things to do before the lecture begins".

V. Fill in the prepositions where it is necessary.

This writer is known all ... the world. Many people are fond ... his books. I read one of his novels ... a month ago. He tells his stories ... such a way that you remember them ... a long time. Although his characters are imaginary it always seems that they live ... real life. ... the beginning of the year they made

a trading expedition … Africa. Crusoe, left ... saying good-bye to anyone. .. . his way ... London he had his first experience ... a shipwreck. The ship ran ... a rock and broke ... pieces. The sailors were swallowed ... the sea.

VI. Use the Present Continuous instead of the infinitives given in brackets:

1. Look the sun (to rise). It is (to shine) brightly.
2. John (to polish) his boots and his sister (to press) her dress.
3. It (to rain)? Yes, it (to rain) very hard. 6. The delegation (to leave) Moscow tomorrow.
4. What you (to read) now? I (to read) stories by Maugham.
5. 10 The weather is fine. The sun (to shine) and the birds (to sing).
6. Why you (to speak) so fast?
7. Who you (to wait) for? I (to wait) for my sister.

Вариант №7

I. Translate the text.

Unit of electrical current and current measurement

The electron is an extremely small unit, and for thus reason it is not a convenient unit to use in the measurement of electric current or of quantity of electricity. The presence of an electric current in a circuit may be detected and its strength may be measured by a number of different methods. Each method is based upon some effect which the current produces under given conditions.

One of these effects is known as electrolytic dissociation. The properties of most conducting liquids are such that when a direct current is maintained in them, the constituent elements of the liquid are separated. For example, when two copper plates are dipped in a solution of copper sulphate and a direct current is maintained in a liquid entering at one plate, the anode, and leaving at the other, the cathode, metallic copper leaves the solution and is deposited on the cathode.

II. Write out from the text the sentences with verbs in the form of the Participle or the Gerund or the Subjunctive mood.

III.Translate the text.

Техника безопасности:

Чтобы обезопасить себя от воздействия электричества, принято работать в резиновых перчатках или стоять на резиновом коврике. Электрики (как, впрочем, и не электрики) берутся починить розетку или другой электрический прибор, не отключая ток. В таком случае они обязаны выполнять только одно правило: не замыкать собой электрическую цепь. Поэтому они не должны касаться каких-нибудь проводников электричества, а также обоих контактов электрического провода одновременно.

IV. Fill in the blanks with the preposition required. Translate the sentences into Russian.

... week-days we work. We rest ... Sundays. I get up ... the morning. We sleep ... night. She promised to do this work ... time. We have our vacation ... January. We live ... the twentieth century. We tell the ... a clock or a watch. Our child is in the fresh air ... morning ... night. My father comes home ... noon.

V. Use the Present Simple or the Present Progressive:

1. Why you (walk) so fast today? You usually (walk) quite slowly.-1 (hurry). I am afraid to miss the train.
2. Cuckoos (not to build) nests. They (to use) the nests of other birds. 3.1 always (to buy) lottery tickets, but I seldom (to win)
4. You cannot (to have) the book now because my brother (to read) it.
5. Some people (to do) everything with their left hand.
6. Who (to make) that terrible noise?-It is my son.
7. How you (to feel)?

VI. Use an adjective or a proverb.

1. What is the (proper) answer to this question?
2. If you read this joke (proper) you will understand it.
3. It was a (gay) song and she sang it (gay).
4. She spoke very (good) and everybody wondered where she had learnt to speak so fluently
5. She was (kind) to him and he was (happy).
6. The children were running among the trees laughing (happy).
7. He is a very (careful) driver.

Вариант №8

I. Translate the text.

How does it work?

It takes billions of electrons to make electricity operate. Electrons move through an electric wire in much the same way water moves through a garden hose. Turning on the faucet pushes the water through the hose. Pushing electrons makes electricity move through the wire.

The machine that pushes the electrons through the wire is called a generator. The wire from the generator goes to your home and into a control center, which is either a fuse box or a circuit breaker.

The fuse box controls how much electricity you use. If you try4o use too much, you will "blow a fuse", and the electricity from that fuse will be cut off. A circuit breaker works differently from a fuse box. A circuit breaker does not let you use too much electricity. It cuts off the flow before there's an overload.

If you did not have a fuse box or circuit breaker, your electric wires could overheat and start afire!

From the fuse box or circuit breaker, the wires go inside your walls to light switches and sockets. Turning on the light switch lets the electricity flow to the light, and the light goes on. When you put a plug into a socket, electricity comes to the socket. But it doesn't flow into the lamp until the switch is turned on.

II. Write out from the text the sentences with verbs in the form of the Participle or the Gerund or the Subjunctive mood.

III.Translate the text.

Техника безопасности:

Ни в коем случае нельзя одновременно дотрагиваться до бытовых приборов и заземленных предметов (водопроводные трубы, батареи центрального отопления и т. д.). Возможно, что на корпус бытового прибора пробивает электричество. В последнее время все больше и больше приборов имеют заземление. Это делается для обеспечения безопасности потребителей. Такие бытовые приборы имеют трехжильный шнур и вилку с тремя контактами.

IV. Supply **somebody, anybody, nobody, (no one, none), something, nothing, everybody, everywhere nowhere, somewhere, anywhere** where required.

1. Good morning...! 2. He never goes by train: he goes ... by plane. 3. There is ... here. 4. He did … all day yesterday. 5. They want chairs. They have ... to sit. 6. ... of the pupils will go to school. It is too cold. 7. ... is coming to see us. 8. She will tell us ... about her holidays.9. He will go ... to have a little rest. 10. Is ... coming to inspect us? 11. Have you ... interesting to tell us? 12. Haven't you ... to go?

V. Replace the infinitives given in brackets by the Past Indefinite or the Past Continuous.

1. John (to write) the label when the bell (to ring) and a short man (to enter). A dog (to follow) him.
2. There (to be) silence while the man (to look) John up and down.
3. I (to see) the light in your windows as I (to pass).
4. During the dinner while he (to eat) his piece of cold meat, his aunt (to help) herself to wine.
5. While he (to read) a newspaper she (to sit) studying him, and by the look in her eyes he (to see) that she (to reflect) on something concerning him.
6. Jim half (to dream) still when he (to come) to the place of his destination.

VI. Choose the correct variant

1. I want to go shopping but if you _____ to come, you
-want, need *-not want, needn't* *-don't want, needn't* *-do want, needn't*

2. If you _____ on this tram it'll take you to the downtown.
- *'ll get* *- have got* *- got* *-get*

3. He _____ to the country tomorrow if the weather is fine.
- go -goes - 'll go -'d go

4. You'll understand nothing unless you _____ the book yourself.
- *read* *-won't read* *-don't read* *- 'll read*

5. You'll understand this rule after your teacher _____ it to you.
- *'ll explain* *- explain* *-explains* *- don't explain*

Вариант №9

I. Translate the text.

Kinds of circuits

Circuits can be divided into four classes: series, parallel, combination of serial-parallel, and network.

Series circuits are those having one closed path for the flow of electricity. All the elements, or devices which make up the circuit are connected in tandem, one after the other, so that the end of one is connected to the beginning of the other; or, in other words, the positive terminal of one is connected to the negative terminal of another. If the series circuit is opened anywhere, the current will not flow through the circuit.

A parallel circuit is one divided into two or more branches, each brand carrying part of the current. Another way of saying the same thing is that all the elements or devices are connected so that one half of the terminals are fastened to a common conductor, and the other half are fastened to another common point, or another conductor.

II. Write out from the text the sentences with verbs in the form of the Participle or the Gerund or the Subjunctive mood.

III. Translate the text.

Перегрузка электрической сети является одной из самых распространенных причин короткого замыкания. Короткое замыкание может произойти и из-за воздействия влаги. Электроустановочные устройства – розетки и выключатели также должны быть влагозащищенными. Внутренняя проводка, а если это невозможно, то внешняя проводка должна быть хорошо изолирована.

IV. Fill in the blanks with the articles ***a, an, the*** where necessary.

I have ... hobby. I like to cook. During my leisure time I make ... cakes and pies. It is not difficult to make ... pie. Sometimes my brother helps me. He is ... good boy and we get along well with ... each other. My brother usually goes ... shopping and buys ... different things, which are necessary for ... cooking. My cakes are tasty but I like ... pies ... best of all.

V. Fill in the prepositions.

It was two o'clock when John went ... the dining-room to have dinner. Peter was already there. He sat ... a table with a book ... his hands. John took the menu... the next table. When the waitress came, he ordered some soup and meat. "Can you bring me some white bread?" asked

John. "Yes, of course, I can", answered the waitress, "I shall bring you some ... a minute". She came back ... a few minutes. "What will you have ... dessert?" she asked. John asked her to bring him some ice-cream. So they took some milk, paid ... their dinner, and went out ... the street.

VI. Use the Future Perfect where possible:

1. I am afraid we (not to solve) all the problems by the time they (to come).
2. Let me know as soon as you can (to make) an appointment with him.
3. After the clerk (to decode) the telegrams he (to take) them to the chief.
4. I am sure he (to throw) some light upon this matter before I (to learn) about it from my sister's letter.
5. The secretary (to look through) all the papers by the time the director (to come).
6. Do not start arguing until you (to hear) what I have to say.
7. If you do not hurry, the train (to leave).

Вариант №10

I. Translate the text:

Measuring devices

Ammeters and Volt meters. - Ammeters measure the current flowing in a circuit and normally have scales which are graduated or calibrated in amperes, milliamperes or microamperes.

Voltmeters are used to measure the potential difference between two points in a circuit. The calibration of voltmeters is usually in volts, millivolts or microvolts.

The main difference between the two instruments of the same type or design is in the resistance of the operating coil, identical moving units may be used for either meter. An ammeter is connected in the positive or negative lead in series with a circuit and, therefore, must have a low resistance coil, otherwise the readings will be incorrect as the coil would absorb an appreciable amount of power.

A voltmeter is connected in parallel across the points of a circuit where the difference of potential is to be measured. The resistance of the operating coil must, in this instance, be as high as possible, to limit the amount of current consumed by it, or else a drop in potential due to the meter would occur and the pointer indication would not represent the true potential difference across the circuit.

Wattmeters .- The measurement of the power in a D. C circuit at any instant can be achieved by means of an ammeter and voltmeter as the power in watts is the product of the current and the voltage. With A.C. circuits, however, the instantaneous values are always changing. To measure A.C. power correctly, therefore, it is necessary to use the third instrument to measure the phase difference. The normal practice, however, is to combine these three instruments in one which will give a direct reading of power in watts.

II. Write out from the text the sentences with verbs in the form of the Participle or the Gerund or the Subjunctive mood.

III.Translate the text.

Электроинструменты:

Как правило, в инструментах электричество используется для вырабатывания механической энергии, однако есть и такие инструменты, которые вырабатывают тепловую энергию: паяльник, калорифер.

IV. Fill in the prepositions where it is necessary.

This writer is known all ... the world. Many people are fond ... his books. I read one of his novels ... a month ago. He tells his stories ... such a way that you remember them ... a long time. Although his characters are imaginary it always seems that they live ... real life. ... the beginning of the year they made a trading expedition ... Africa. Crusoe left ... saying good-bye to anyone. ... his way ... London he had his first experience ... a shipwreck. The ship ran ... a rock and broke ... pieces. The sailors were swallowed…the sea.

V. Replace the infinitives given in brackets by the Past Indefinite or the Past Continuous

1. John (to write) the label when the bell (to ring) and a short man (to enter). A dog (to follow) him.
2. There (to be) silence while the man (to look) John up and down.
3. I (to see) the light in your windows as I (to pass).
4. During the dinner while he (to eat) his piece of cold meat, his aunt (to help) herself to wine.
5. While he (to read) a newspaper she (to sit) studying him, and by the look in her eyes he (to see) that she (to reflect) on something concerning him.
6. Jim half (to dream) still when he (to come) to the place of his destination.

VI. Change the verbs in bracket by Gerunds. Put prepositions where necessary.

I have no intention ... (to stay) here any longer. She insisted ... (to help) me. Are you fond of ... (to play). They have had very much experience ... (to cast). There was no possibility ... (to come) in time. There is little chance ... (to see) him today. We have the pleasure ... (to invite) them to the evening party. We are proud ... (to fulfill) that task ahead of time.

Вариант № 11

I. Translate the text.

What is electricity?

Have you ever gotten a shock when you touched a doorknob, or seen sparks fly when you combed your hair? That's electricity.

Electricity is a type of energy that gives things the power to work. This energy comes from electrons. Scientists have learned how to use electrons to produce electricity.

Meghometer

The most commonly used apparatus for insulation resistance is the meghommeter or "megger". The device is easy to handle. It consists of a hand-driven generator in a permanent magnet frame which causes a moving coil to register the insulation resistance in ohms or megohms, the amount of which is indicated by a pointer.

The "megger" is also used for continuity, ground, and short-circuit testing in general electrical power work.

Electricity- Sound and Light

Flip a switch and a light goes on. It's simple, right? Wrong! Every time you flip a light switch, you make billions of little electrons go to work for you. Uncountable hours of work have gone into providing you with the electricity you need to turn that light on. Without electricity you wouldn't have telephones, television, video games, and many other things you use every day.

II. Write out from the text the sentences with verbs in the form of the Participle or the Gerund or the Subjunctive mood.

III.Translate the text.

Техника безопасности:

Чтобы обезопасить себя от воздействия электричества, принято работать в резиновых перчатках или стоять на резиновом коврике. Электрики (как, впрочем, и не электрики) берутся починить розетку или другой электрический прибор, не отключая ток. В таком случае они обязаны выполнять только одно правило: не замыкать собой электрическую цепь. Поэтому они не должны касаться каких-нибудь проводников электричества, а также обоих контактов электрического провода одновременно.

IV. Fill in the blanks with the articles ***a, an, the*** **and** ***prepositions,*** where necessary:

We live in ... nice flat ... new house near ... park. ... flat is on ... second floor. There are ... two rooms in it. We have also ... kitchen and ... bathroom ... kitchen is ... big enough. As ... rule, my mother cooks for us. We spend ... lot of ... time together in ... kitchen. There is ... TV set in

... corner of ... kitchen, and we often watch ... TV there The young scientist shook hands ... his friends who had come ... the airport to see him ...

V. Fill in blanks with the Past Progressive or the Past Simple Tense of the verbs in margin.

1. I ... a letter to my friend yesterday .	write
2. We ... to a lecture yesterday at ten o'clock.	listen
3. She ... the piano from 11 till 12 o'clock.	play
4. When he ... in, I ... my exercises.	come, do
5. What ... you yesterday at 8 o'clock?	do
6. Yesterday when I ... the newspaper, my sister ... to a concert over the radio.	read, listen
7. She ... out of the window when I ... her.	look, see

VI. Choose the correct word form those given in brackets:

1 .When I saw that actress on the stage for the first time, she (to look like, to take after) a small girl. From her biography I learnt that she (to look like, to take after) her mother, who had also been a great actress. 2. If you want some information on trade, go to the Ministry library. There are a lot of good (magazines, journals) on the subject there. 3. After coming home from work, my father likes to spend an hour reading (a newspaper, a magazine).

Вариант 12

1. Translate the text.

How electrical energy is produced

There are several methods of producing electricity for practical purposes. The battery of a pocket torch may be contrasted with the source of enormous energy represented by a larger power station. Both are examples of the application of electrical energy to a particular purpose, and in general the purpose determines the nature of the method used to produce the energy. Practical methods of producing electricity may be enumerated as follows:

1. **Chemical**, as represented by the various types of batteries or primary cells in which the electricity is produced by purely chemical actions.

2. **Electromagnetic**, forming the basis of operation of rotating generators in which the electricity is produced by conductors moving through a magnetic field.This is the method employed in practice for generators of various sizes.

3. **Thermo-electric**, in which the heating of the junction between two different metals produces a very small voltage which may be used for purposes of temperature measurement and as a source of power.

4. **Piezo- electric**, in which a very small voltage is produced across certain faces of a crystal by application of mechanical pressure. This effect is used, for example, as a means of frequency control in radio oscillators or for gramophone pick-ups, but it is not suitable for power supply.

5. **Electronic,** characterized by the flow of electrons through evacuated or gas-filled tubes, and having the following forms: a) thermionic emission, in which the electrons are produced by the heating of special materials; b) photo- electric emission, in which electrons are liberated at the surface of certain substances by the action of light; c) secondary emission, in which electrons are driven from a material by the impact of electrons or other particles on its surface; d) Field emission, in which electrons are drawn from the surface of a metal by the application of very powerful electric fields.

II. Translate the text.

Техника безопасности:

Бытовые приборы, имеющие защиту от воздействия влаги, имеют специальную маркировку, однако это вовсе не значит, что не следует быть внимательным. Всегда помните о том, что сочетание воды и электричества очень опасно.

IV. Fill in the blanks with prepositions and adverbial particles where necessary:

1 .Instead ... buying something ... everyday wear, as she had first intended, Mary bought a ... sleeveless dress... better waer.2. I don't advise you to buy this pair ... shoes. I am afraid they'll soon wear... .3. I wonder why the water has set the table ... two persons instead ... three. 4. Speaking at the production meeting, the director ... the factory pointed ... that each ... the workers and engineers was responsible ... carrying ... the plan.

V. Use the Past Indefinite or the Past Perfect.

1. They (to complete) all the preparation for the fancy-dress ball by 5 o'clock.
2. On leaving the hospital the man (to thank) the doctor who (to cure) him of his disease.
3. In the morning all the passengers (to feel) good after the night they (to spend) in the comfortable sleeper.
4. During my last visit to the picture gallery I (to find) that I no longer (to like) the pictures which (to impress) me when I first (to see) them. Evidently my taste (to change).
5. Last night he (complete) the experiment which he (to begin) some months before.
6. They (to be) friends for some ten years before I (to meet) them.
7. No sooner she (to open) the drawer than she (to find) the photo which she (to think) she (to lose) long before.

VI. Change the verbs in bracket by Gerunds. Put prepositions where necessary.

I have no intention ... (to stay) here any longer. She insisted ... (to help) me. Are you fond of ... (to play). They have had very much experience ... (to cast). There was no possibility ... (to come) in time. There is little chance ... (to see) him today. We have the pleasure ... (to invite) them to the evening party. I think ... (to go) to the South in summer. We are proud ... (to fulfill) that task ahead of time. They had not any difficulty ... (to get) new machines.

Вариант №13

I. Translate the text.

Direct current generations and their applications

The Essential difference between a d.c. generator and a. c. generator is that the former has a commutator by means of which the generated e. m. f. is made continuous, i. e., the commutator mechanically rectifies the alternating e. m. f. so that it is always of the same polarity. This is not, however, the only difference between them.

A d.c. generator as well as a motor of conventional type is made up of the following parts: outer frame, or yoke, pole cores, pole coils, armature windings, commutator, bruches, and bearings. Of these, the yoke, pole cores, armature core and the air gap between armature and pole core form the magnetic circuit while the pole coils, armature windings, commutator, and brushes form the electric circuit.

Generator fields may be either of two main types-separately excited or self- excited. The self-excited type is further, classified as series-wound, shunt-wound and compound-wound. In general practice compound-wound machines are used.

II. Write out from the text the sentences with verbs in the form of the Participle or the Gerund or the Subjunctive mood.

III. Translate the text.

Величина электрического тока (количество переносимого заряда) измеряется в амперах. Напряжение, т. е. разность потенциалов, которая заставляет течь ток (ЭДС – электродвижущая сила), измеряется в вольтах.

IV. Fill in the blanks with the articles *a, an, the* and *prepositions,* where necessary.

When Mary was to open a meeting ... the first time ... her life, her voice shook ... excitement. The young scientist shook hands ... his friends who had come ... the airport to see him ... . I wonder why Bob is such an ill-natured boy. It's a pity he takes ... his mother only ... appearance! Ask Kate to join ... our party. She looks serious, but I know she is very gay ... nature and is fond of ... singing and dancing.

V. Put the verbs in brackets into the correct voice and tense-forms:

1. Don't let the boy stay out so long. He (to run about) for three hours, and may catch cold. 2. That young singer has had very good training. He (to sing) for half an hour and never (to stop)

for a moment to rest. 3. It is unfair of you to be so cross with the man. He (to be) away for two weeks and you can't blame him for few mistakes that (to make) during his absence.

VI. Use the Future Perfect where possible:

1. I hope that they (to receive) my letter by Saturday and (not to expect) me on Sunday.
2. Let me know as soon as you can (to make) an appointment with him.
3. After the clerk (to decode) the telegrams he (to take) them to the chief.
4. The secretary (to look through) all the papers by the time the director (to come).
5. Do not start arguing until you (to hear) what I have to say.
6. I suppose that when my letter (to reach) you, you (to return) from your voyage.
7. If you do not hurry, the train (to leave).

Вариант №14

I. Translate the text.

Industrial application of D.C. generators.

D.C. generators are used for electrolytic processes such as electroplating. We know that large d.c. generators are employed in certain manufacturing processes, such as steel making.

The d.c. generator of small capacities is used for various special purposes such as arc welding, automobile generators, train lighting systems, etc. It also finds rather extensive use in connection with communication systems.

For supplying direct-current power networks, the supply comes first from an alternating-current source and is converted to direct current by synchronous convenors or motor-generator sets.

II. Write out from the text the sentences with verbs in the form of the Participle or the Gerund or the Subjunctive mood.

III.a) Find in the text English equivalents:

-производство стали

-малых мощностей - дуговая сварка

-силовые сети постоянного тока - энергия поступает

b) Translate the text.

Атомы любого вещества располагаются на некотором расстоянии друг от друга. В металлах расстояния между атомами настолько малы, что электронные оболочки практически соприкасаются. Это дает возможность электронам свободно блуждать от ядра к ядру, создавая при этом электрический ток, поэтому металлы, а также некоторые другие вещества являются проводниками электричества.

IV.Fill in the blanks with the articles *a, an, the* and prepositions, where necessary:

We live in ... nice flat...new house near … park. ... flat is on ... second floor. There are ... two rooms in it. We have also ... kitchen and ... bathroom, kitchen is... big enough. As ... rule, my mother cooks for us. We spend ... lot of...time together in … kitchen. There is...TV set in ... corner of ... kitchen, and we often watch ... TV there.

V. Put the verbs in brackets into the correct voice and tense-forms:

1. I not (write) this letter now. I (write) it in some days.
2. Peter and Ann (go) away five minutes ago.

3. She already (answer) the letter.
4. I (not see) him for three years.
5. You (switch off) the light before you left the house?
6. I (not meet) him last week.
7. I read these books when I was at school. I (like) them very much.
8. He (not smoke) for a month. He is trying to give it up.

VI. Fill in the blanks with prepositions and adverbial particles where necessary:

1. Instead ... buying something ... everyday wear, as she had first intended, Mary bought a ... sleeveless dress ... better wear. 2. I don't advise you to buy this pair...shoes. I am afraid they'll soon wear ... 3. I wonder why the water has set the table ... two persons instead ... three.

4. Speaking at the production meeting, the director … the factory pointed ... that each ... the workers and engineers was responsible ... carrying ... the plan.

Вариант № 15

I. Translate the text:

The compound motor

The features of the shunt and series type of motors may be combined in one machine by providing both series and shunt windings for the field. This arrangement gives the compound motor. There are two windings on each field pole; a heavy or series winding for carrying the armature current, and a shunt winding connected to the supply. Each winding is formed by the series connection of the corresponding coils, and the fields due to the respective windings aid each other.

Speed control of a compound motor may be obtained by means of resistance in the field or armature circuit, as in the case of the shunt motor.

The compound motor may be regarded as having a higher starting torque than a shunt motor and a more constant speed under changing load conditions than the series motor. Either feature may be emphasized by varying the proportion of the total field strength due to each winding.

II. Write out from the text the sentences with verbs in the form of the Participle or the Gerund or the Subjunctive mood.

III. a) Find in the text English equivalents:

- используя обмотки как последовательного, так и параллельного возбуждения для создания поля

-соединенный с источником питания - регулировка числа оборотов

b) Translate the text:

Вещества, которые имеют далеко расставленные атомы, электроны, прочно связанные с ядром, которые не могут свободно перемещаться. Такие вещества не являются проводниками и их принято называть диэлектриками, самым известным из которых является резина. Это и есть ответ на вопрос, почему электрические провода делают из металла.

IV. Fill in the blanks with the articles *a, an, the* and prepositions, where necessary:

1. What ... fine day it is today! *2.* ... History and Computer Science were ... my favorite subjects at ... school. 3.1 don't know ... way to ... station. 4. He is ... engineer by ... profession. 5. Usually I get up at ...7 o'clock in ...morning. 6. ...Rostov is on ... right bank of... Don. 7. Will you have ...cup ... of tea? 8. ...Warsaw is ... capital of Poland. 9. We shall go to ... cinema together with ... our friends. 10. This is ... book ... book is very interesting. 11. Do you see ... sun in ... sky today?

V. Put the verbs in brackets into the correct tense-forms:

1. He (know) several foreign languages.
2. Our grandparents (live) now in Moscow.
3. He often (visit) them last year.
4. She (work) abroad next year.
5. She (not like) loud music.
6. What you (do) yesterday?
7. His sister (go) to the seaside next July.

V. Fill in the blanks with prepositions and adverbial particles where necessary:

1. Instead ... buying something ... everyday wear, as she had first intended, Mary bought a ... sleeveless dress ... better wear. 2. I don't advise you to buy this pair ... shoes. I am afraid they'll soon wear.... 3.1 wonder why the water has set the table ... two persons instead ... three.

4. Speaking at the production meeting, the director ... the factory pointed ... that each ... the workers and engineers was responsible ... carrying ... the plan. 5. She said that the new film was worth seeing, but there was such an expression ... her face that I thought she was saying it only ... fun.

Вариант № 16

I. Translate the text:

Transformers

One of the great advantages in the use of the alternating currents is the ease with which the voltage may be changed by means of a relatively simple device known as a transformer. Although there are many different applications, the principles of action are the same in each case.

The basic arrangement consists of a laminated iron core forming a closed magnetic circuit on which two separate windings are mounted. One winding, called the primary, is connected to the a.c. supply, and the other winding, the secondary, produces a voltage which can have any desired value if the respective windings are suitably designed.

The transformer relies for its action upon the fact that when a magnetic field passing through a coil is changed or varied a voltage is produced in the coil. The amount of this voltage is proportional to the number of turns in the coil and to the rate at which the magnetic field varies.
In general, it is approximately true that the ratio of the primary to the secondary voltage is equal to the ratio of the number of primary turns to the number of secondary turns. This ratio is not exact because of leakage effects in the magnetic circuit.

II. Write out from the text the sentences with verbs in the form of the Participle or the Gerund or the Subjunctive mood.

III. a) Find in the text English equivalents:

- источник переменного тока
- работа трансформатора основана на
- пропорционален числу витков

b) Translate the text:

Оборудования работающего на основе использования возобновляемых источников энергии для автономного тепло- и электроснабжения частных домов и зданий. С его помощью можно частично или полностью покрыть энергозатраты практически любого объекта.

- солнечные вакуумные водонагреватели для круглогодичного производства горячей воды
- ветрогенераторы для выработки электроэнергии.
- солнечные фотоэлектрические батареи и товары на их основе – зарядные устройства, фонари, энергоэффективные светодиодные лампы.

IV. Fill in the blanks with the articles a, an, the and prepositions, where necessary:

When Mary was to open a meeting ... the first time ... her life, her voice shook ... excitement. The young scientist shook hands...his friends who had com ... the airport to see him.... I wonder why Bob is such an ill-natured boy. It's a pity he takes ... his mother only ... appearance! Ask Kate to join ... our party. She looks serious, but 1 know she is very gay ... nature and is fond of ... singing and dancing.

V. Put the verbs in brackets into the correct voice and tense-forms:

1. That young singer has had very good training. He (to sing) for half an hour and never (to stop) for a moment to rest. 2. It is unfair of you to be so cross with the man. He (to be) away for two weeks and you can't blame him for few mistakes that (to make) during his absence. 3. Our reply (to send) to you as soon as all the dates (to fix) finally. At the moment some of them (to consider) still.

VI. Fill in the blanks with the necessary forms of Modal Verbs:

(*must, should, would, ought to, needn't, can, could, may, might*)

1. They ... not do this work themselves. 2. You ... take my dictionary. 3. You don't look well, you ... consult the doctor. 4. Why ... I give you my money? 5. She ... not speak any foreign language. 6. He ... to help them, they need his help. 7. ... you tell me the time? 8. ... I go with you? No, you ....

Вариант № 17

I. Translate the text:

Auto-Transformers

The Transformer effect can also be obtained with a single tapped winding instead of separate primary and secondary windings. The arrangement is called an auto-transformer. If the primary winding n 'resents the whole coil, the secondary voltage will be substantially the same proportion of the applied voltage as the proportion between the turns up to the secondary tapping and the total number of turns. By interchanging the voltage so that the supply is connected to the smaller number of turns, a voltage larger than the supply voltage appears across the whole coil. The auto-transformer can thus be used to obtain a higher or lower voltage than the supply, as in the case of the convential transformer with two separate windings.

In practice, the use of auto- transformers is limited to fairly small voltage ratios, one reason being that if a break occurs anywhere in the secondary section of the winding, the primary Voltage is applied to the apparatus connected to the secondary. With a high primary voltage this would give dangerous conditions. The chief uses of auto- transformers, are in a.c. voltage regulation and for infrequent service such as the low-voltage starting of induction motors.

II. Write out from the text the sentences with verbs in the form of the Participle or the Gerund or the Subjunctive mood.

III. a) Find in the text English equivalents:

-на одной обмотке с отпайкой

-общее число витков

-запуск асинхронных двигателей на низком напряжении

b)Техника безопасности:

Бытовые приборы, имеющие защиту от воздействия влаги, имеют специальную маркировку, однако это вовсе не значит, что не следует быть внимательным. Всегда помните о том, что сочетание воды и электричества очень опасно.

IV. Fill in the blanks with the articles *a, an, the* and prepositions, where necessary:

1.What ... fine day it is today! 2. ... History and Computer Science were ... my favorite subjects at ... school. 3. I don’t know ... way to ... station. 4. He is ... engineer by ... profession. 5. Usually I get up at ... 7 o'clock in ... morning. 6. ... Rostov is on ... right bank of... Don. 7. Will you have ... cup ... of tea? 8. ...Warsaw is ... capital of Poland.

V. Put the verbs in brackets into the correct tense-forms:

1. She (not like) loud music.
2. His sister (go) to the seaside next July.
3. I not (write) this letter now. I (write) it in some days.
4. She already (answer) the letter.
5. I (not see) him for three years.
6. You (switch off) the light before you left the house?
7. I (not meet) him last week.

Вариант №18

I. Translate the text.

Protection and control equipment

In electrical systems for the generation, distribution and use of electrical energy, considerable control equipment is necessary. It can be divided into t\v. classes: A) equipment used at the generating and distributing end; b) equipment used at the receiving end of the system. Safety switches are used at the point where the power enters the building. They are of the knife type and are usually enclosed in metallic boxes.

A magnetic contactor is used to make and break the circuit at the points where considerable power used.

An automatic starter is a device which is used to keep the current from being excessive while the motor is obtaining full speed. It is a kind of a resistance inserted in series with the direct current armature. As the motor obtains speed it gradually removes.

II. Write out from the text the sentences with verbs in the form of the Participle or the Gerund or the Subjunctive mood.

III. a) Find in the text English equivalents:

-аварийный выключатель, предохранительный выключатель

-замыкать и размыкать цепь

-предохранять от сверхтоков, от перегрузки

-постепенно выводится

b) Translate the text:

Вещества, которые имеют далеко расставленные атомы, электроны, прочно связанные с ядром, которые не могут свободно перемещаться. Такие вещества не являются проводниками и их принято называть диэлектриками, самым известным из которых является резина. Это и есть ответ на вопрос, почему электрические провода делают из металла.

IV. Fill in blanks with the Past Progressive or the Past Simple Tense of the verbs in margin.

1. I ... a letter to my friend yesterday. write
2. We ... to a lecture yesterday at ten o'clock. listen
3. She ... the piano from 11 till 12 o'clock. play
4. When he ... in, I ... my exercises. come, do

5. What ... you yesterday at 8 o'clock? do

6. Yesterday when I ... the newspaper, my sister ... to a concert over the radio. read, listen

7. She ... out of the window when I ... her. look, see

8. I ... along the street with my friend when the car … by. walk

9. It ... the whole day yesterday. rain

V. Choose the correct word form those given in brackets:

1 .When I saw that actress on the stage for the first time, she (to look like, to take after) a small girl. From her biography I learnt that she (to look like, to take after) her mother, who had also been a great actress. 2. If you want some information on trade, go to the Ministry library. There are a lot of good (magazines, a journals) on the subject there.

VI. Fill in the blanks with the necessary forms of Modal Verbs:

(*must, should, would, ought to, needn't, can, could, may, might*)

1. They ... not do this work themselves. 2. You ...take my dictionary. 3. You don't look well, you ... consult the doctor. 4. Why ... I give you my money? 5. She ... not speak any foreign language. 6. He ... to help them, they need his help. 7. ... you tell me the time? 8. ... I go with you? No, you .... 9. Your daughter ... have told about it. 10. In winter we ... often skate. 11. You ... not miss your classes. 12. ... you play the piano before?

Вариант №19

I. Translate the text

Automatic Voltage regulators

In the generation and distribution of electrical energy it is important to keep the line voltage constant as the load or speed changes.

Where the load is changed gradually rheostats are used, in installations where the load may change rapidly automatic voltage regulators are used.

To protect electrical equipment and the wiring from damage due to short circuits and overloads, fuses or circuit breakers are usually used. The fuse is known to be a device for inserting in the circuit a strip of metal which melts at a relatively low temperature. The fuse will melt if the current gets above a certain limit.

A circuit breaker is similar to the magnetic contactor.

II. Write out from the text the sentences with verbs in the form of the Participle or the Gerund or the Subjunctive mood.

III. a) Find in the text English equipment:

- при изменении нагрузки или оборотов поддерживать линейное напряжение постоянным
- из-за коротких замыканий и перегрузок
-известно, что плавкий предохранитель представляет собою приспособление
- если ток переходит определенный предел

b) Translate the text.

Перегрузка электрической сети является одной из самых распространенных причин короткого замыкания. Короткое замыкание может произойти и из-за воздействия влаги. Электроустановочные устройства – розетки и выключатели также должны быть влагозащищенными. Внутренняя проводка, а если это невозможно, то внешняя проводка должна быть хорошо изолирована.

IV. Change the verbs in bracket by Gerunds. Put prepositions where necessary.

I have no intention ... (to stay) here any longer. She insisted ... (to help) me. Are you fond of ... (to play). They have had very much experience ... (to cast). There was no possibility ... (to come) in time. There is little chance ... (to see) him today. We have the pleasure ... (to invite) them to the evening party. I think ... (to go) to the South in summer.

V. Fill in the blanks with the necessary forms of Modal Verbs:

(*must, should, would, ought to, needn't, can, could, may, might*)

1. They...not do this work themselves. 2. You...take my dictionary. 3. You don't look well, you... consult the doctor. 4. Why... I give you my money? 5. She... not speak any foreign language. 6. He...to help them, they need his help. 7. ...you tell me the time?

VI. Choose the correct variant

1. I want to go shopping but if you _____ to come, you
-want, need *-not want, needn't* *-don't want, needn't* *-do want, needn't*

2. If you _____ on this tram it'll take you to the downtown.
- *'ll get* - *have got* - *got* *-get*

3. He _____ to the country tomorrow if the weather is fine.
- go -goes - 'll go -'d go

4. You'll understand nothing unless you _____ the book yourself.
- *read* *-won't read* *-don't read* - *'ll read*

5. You'll understand this rule after your teacher _____ it to you.
- *'ll explain* - *explain* *-explains* - *don't explain*

Вариант №20

I. Translate the text:

Care of the electrical equipment

As a rule electrical equipment operates reliably. Still it does not mean that it deserves no attention. It is necessary to give the equipment frequent inspections, keep it well cleaned, lubricated and repaired. Undue heating, vibration, sparking should be immediately removed.

Heating may be due to overload or to a short circuit between turns, lack of oil in bearings. Vibration may be due to unproper foundation, unbalance in the moving parts of the machine.

Conductors may get heated because of overload or by reason of damage of the insulation of the conductor.

An electrical machine of any kind requires certain conditions under which it may operate reliably: temperature and freedom of access of surrounding air, need for protection against dirt, dust, type and duration of load, etc.

Rotating machines should be placed on solid foundations.

Conductors should be protected against mechanical damage.

All measures of safety precaution must be undertaken.

II. Write out from the text the sentences with verbs in the form of the Participle or the Gerund or the Subjunctive mood.

III. a) Find in the text English equipments:

- короткое замыкание между витками
- чрезмерное нагревание
- меры по технике безопасности

b) Техника безопасности:

Ни в коем случае нельзя одновременно дотрагиваться до бытовых приборов и заземленных предметов (водопроводные трубы, батареи центрального отопления и т. д.). Вполне возможно, что на корпус бытового прибора пробивает электричество. В последнее время все больше и больше приборов имеют заземление. Это делается для обеспечения безопасности потребителей. Такие бытовые приборы имеют трехжильный шнур и вилку с тремя контактами.

IV. Fill in the blanks with the articles *a, an, the* and prepositions, where necessary:

When Mary was to open a meeting ... the first time ... her life, her voice shook ... excitement. The young scientist shook hands ... his friends who had come ... the airport to see him.... I wonder why Bob is such

an ill-natured boy. It's a pity he takes ... his mother only ... appearance! Ask Kate to join ... our party. She looks serious, but I know she is very gay ... nature and is fond of ... singing and dancing.

V.Put the verbs in brackets into the correct voice and tense-forms:

1. Don't let the boy stay out so long. He (to run about) for three hours, and may catch cold. 2. That young singer has had very good training. He (to sing) for half an hour and never (to stop) for a moment's rest. 3. It is unfair of you to be so cross with the man. He (to be) away for two weeks and you can't blame him for few mistakes that (to make) during his absence. 4. Our reply (to send) to you as soon as all the dates (to fix) finally. At the moment some of them (to consider) still.

VI. Fill in the blanks with prepositions and adverbial particles where necessary:

1. Instead ... buying something ... everyday wear, as she had first intended, Mary bought a ... sleeveless dress ... better wear. 2. I don't advise you to buy this pair ... shoes. I am afraid they'll soon wear.... 3.1 wonder why the water has set the table ... two persons instead ... three.

4. Speaking at the production meeting, the director ... the factory pointed ... that each ... the workers and engineers was responsible ... carrying ... the plan. 5. She said that the new film was worth seeing, but there was such an expression ... her face that I thought she was saying it only ... fun.

ПРИЛОЖЕНИЕ 12

Методические рекомендации по выполнению тестовых заданий

Составитель _____/Е.Н.Горшкова/
(подпись)

1. Общие положения

1.1. Тест – это инструмент, краткое стандартизованное испытание, в основе которого лежит специально подготовленный набор заданий, позволяющих объективно и надежно оценить исследуемые качества на основе использования статистических методов.

1.2. Тестовые задания рассчитаны на самостоятельную работу без использования вспомогательных материалов. То есть при их выполнении не следует пользоваться текстами законов, учебниками, литературой и т.д.

1.3. Тестовый контроль применяется в органическом единстве с устной, письменной и практической проверкой знаний, умений, навыков.

1.4. Тестовый контроль дает возможность при незначительных затратах аудиторного времени проверить всех обучающихся. С его помощью можно проверить репродуктивную деятельность обучающихся: знакомство с учебным материалом и его воспроизведение. Поэтому он наиболее применим в процессе текущего контроля. Несмотря на большое разнообразие характера заданий, применяемых при стандартизированном контроле, с точки зрения структуры их можно свести к двум основным типам вопроса: к избирательным, основанным на таких видах деятельности обучающегося, как узнавание, припоминание, и конструированным, основанным на припоминании и дополнении.

1.5. К каждому вопросу теста предлагается один или несколько ответов на выбор, обучающийся должен найти среди них правильный (правильные).

1.6. Все задания теста, независимо от содержания тем, разделов и от учебных дисциплин, располагаются в порядке возрастающей трудности.

1.7. Тесты могут использоваться:

– обучающимися при подготовке к зачету (дифференцированному зачету, экзамену) в форме самопроверки знаний;

– преподавателем для проверки знаний в качестве формы текущего и промежуточного контроля знаний;

– для проверки остаточных знаний обучающихся, изучивших данный курс дисциплины (МДК).

1. Разделение тестов по уровню сложности

2.1. Первый уровень (знакомство) - тесты по узнаванию, т.е. отождествлению объекта и его обозначения (задания на опознание, различение или классификацию объектов, явлений и понятий).

2.2. Второй уровень (репродукция) - тесты-подстановки, в которых намеренно пропущено слово, фраза, формула или другой какой-либо существенный элемент текста, и конструктивные тесты, в которых в отличие от теста-подстановки обучающимся не содержится никакой помощи даже в

виде намеков и требуется дать определение какому-либо понятию, указать случай действия какой-либо закономерности и т.д. В качестве тестов второго уровня могут использоваться и типовые задачи, условия которых позволяют «с места» применять известную разрешающую их процедуру (правило, формулу, алгоритм) и получать необходимый ответ на поставленный в задаче вопрос.

2.3. Третьему уровню соответствуют задания, содержащие продуктивную деятельность, в процессе которой необходимо использовать знания-умения. Тестами третьего уровня могут стать нетиповые задачи на применение знаний в реальной практической деятельности. Условия задачи формулируются близкими к тем, которые имели место в реальной жизненной обстановке.

2.4. Тесты четвертого уровня – это проблемы, в решении которых есть творческая деятельность, сопровождающаяся получением объективно новой информации. Тестами четвертого уровня выявляется умение обучающихся ориентироваться и принимать решения в новых, проблемных ситуациях.

2. Основные формы тестовых заданий

3. Основные элементы тестового задания

3.1. Выделяют четыре основные формы тестовых заданий:

– закрытые (содержат вопросы с выбираемыми ответами, вариантами ответов, множественным выбором. К ним относят: фасетные задания, задания-задачи с предлагаемым вариантом ответов – числами);

– на установление соответствия (обучающийся должен установить соответствие элементов одного множества элементам другого. К ним относят: термины-определения, показатели-способы расчета, хозяйственные операции);

– на определение правильной последовательности (обучающемуся необходимо указать порядок выполнения процессов, операций, вычислений. Обучаемый вводит номера предлагаемых операций в нужной последовательности. Разновидность – задания на ранжирование: расположение элементов по возрастанию их значимости);

– открытые (содержат задания на заполнение пропусков, на завершение фраз, предложений: в месте пропуска (точек) указывается слово или несколько слов).

4.

4.1. Основными элементами тестового задания являются:

– инструкция (определяет, что следует делать: отметить правильный ответ, отметить номера правильных ответов, дополнить, установить соответствие, установить правильную последовательность и т.д.);

– задание;

– ответы к заданию;

– оценка.

4.2. По содержанию действий обучаемого при контроле знаний можно выделить задания на:

- выбор одного ответа;
- выбор нескольких ответов;
- установление соответствия;
- установление правильной последовательности;
- ранжирование;
- заполнение пропусков, завершение предложений;
- подстановку;
- составление ответа;
- вычисление ответа;
- вычисление и выбор ответа.

5. Требования к выполнению теста

5.1. Прежде чем приступить к выполнению теста, обучающийся должен:

- изучить информацию по теме;
- провести ее системный анализ;
- выполнить тест;
- внимательно проверить результат выполнения;
- представить на контроль в установленный срок.

6. Критерии оценки теста

6.1. При выставлении оценки за тест рекомендуется пользоваться следующими критериями:

Процент результативности (правильных ответов)	Оценка уровня подготовки	
	балл (отметка)	вербальный аналог
80 ÷ 100	5	отлично
70 ÷ 79	4	хорошо
60 ÷ 69	3	удовлетворительно
менее 60	2	неудовлетворительно

6.2. Критерии оценки тестов могут разрабатываться преподавателем самостоятельно.

6.3. При оценивании выполнения теста по желанию преподавателя можно также начислять:

- 1 или несколько баллов - за правильное выполнение всего задания;

– по 1 баллу - за каждый правильный ответ;

– по 1 баллу - за каждый правильный ответ и вычитать 1 балл - за каждый неправильный ответ.

ПРИЛОЖЕНИЕ 13

Методические рекомендации
по подготовке и выполнению практической работы

Составитель _____/Е.Н.Горшкова/
(подпись)

1. Общие положения

1.1. **Практическая проверка** занимает особое место в системе контроля. Основные цели обучения в среднем специальном образовательном учреждении не только усвоение определенной системы знаний, но и, главным образом, формирование профессиональной готовности решать практические производственные задачи. Такая готовность определяется степенью сформированности системы умений, и, прежде всего, профессиональных.

1.2. Практическая проверка позволяет выявить, как обучающиеся умеют применять полученные знания на практике, насколько они овладели необходимыми умениями, главными компонентами деятельности. В процессе выполнения профессиональных заданий обучающийся обосновывает принятые решения, что позволяет установить уровень усвоения теоретических положений, т.е. одновременно с проверкой умений осуществляется проверка знаний. Этот метод используют при изучении общеобразовательных и общетехнических дисциплин, но наиболее широко — специальных дисциплин, на практических занятиях, при выполнении курсовых и дипломных проектов, при прохождении производственной практики.

1.3. Для практической проверки предлагаются самые разнообразные задания: провести различные измерения, осуществить сборку, разборку, определить причины неисправности, настроить прибор, разработать техническую документацию, изготовить конкретное издание, выполнить практическую работу, проанализировать производственную ситуацию, поставить эксперимент и т.д.

1.4. На практических работах преподаватель имеет возможность проверить не только знание теоретических положений, необходимых для выполнения заданий. В процессе наблюдения за ходом таких работ (последовательностью, уверенностью в действиях) выявляется сформированность умений обращаться с приборами, производить измерения, выполнять расчеты, анализировать полученные результаты, делать выводы, оформлять отчет о проделанном.

1.5. Проведение практических работ позволяет наиболее объективно определить уровень готовности обучающегося к практической деятельности, сформированность таких важнейших интеллектуальных умений, как анализ и синтез, обобщение, сравнение, перенос знаний, использование знаний и нестандартных условиях.

2. Основные критерии, по которым оценивается деятельность обучающихся во время проведения практической работы

2.1. Основными критериями, по которым оценивается деятельность обучающихся во время проведения практической (лабораторной) работы, являются следующие:

– правильность применения приемов работы;
– рациональная организация труда и рабочего места;

– выполнение установленных норм и требований к конкретному виду работы (рациональное использование оборудования и инструмента, соблюдение правил техники безопасности, степень самостоятельности при выполнении заданий).

3. Критерии и шкала оценивания

3.1. При выставлении оценки за практическую работу рекомендуется пользоваться следующими критериями:

Оценка	*Критерии оценки*
Оценка «5» (отлично)	Правильность выполнения задания лабораторной/практической работы в соответствии с вариантом; высокая степень усвоения теоретического материала по теме лабораторной/практической работы. Способность продемонстрировать преподавателю навыки работы в инструментальной программной среде, а также применить их к решению типовых задач, отличных от варианта задания. Высокое качество подготовки отчета по лабораторной/практической работе. Правильность и полнота ответов на вопросы преподавателя во время защиты работы.
Оценка «4» (хорошо)	Демонстрирует достаточно высокий/выше среднего уровень выполнения задания лабораторной/практической работы в соответствии с вариантом и хорошую степень усвоения теоретического материала по теме лабораторной/практической работы. Все требования, предъявляемые к работе, выполнены.
Оценка «3» (удовлетворительно)	Демонстрирует средний уровень выполнения задания лабораторной/практической работы в соответствии с вариантом Большинство требований, предъявляемых к заданию, выполнены.
Оценка «2» (неудовлетворительно)	Демонстрирует низкий/ниже среднего уровень знаний, умений, навыков в соответствии с критериями оценивания. Многие требования, предъявляемые к заданию, не выполнены.