Государственное профессиональное образовательное учреждение
«Сосногорский технологический техникум»

МЕТОДИЧЕСКИЕ УКАЗАНИЯ

Е.В. Савенкова

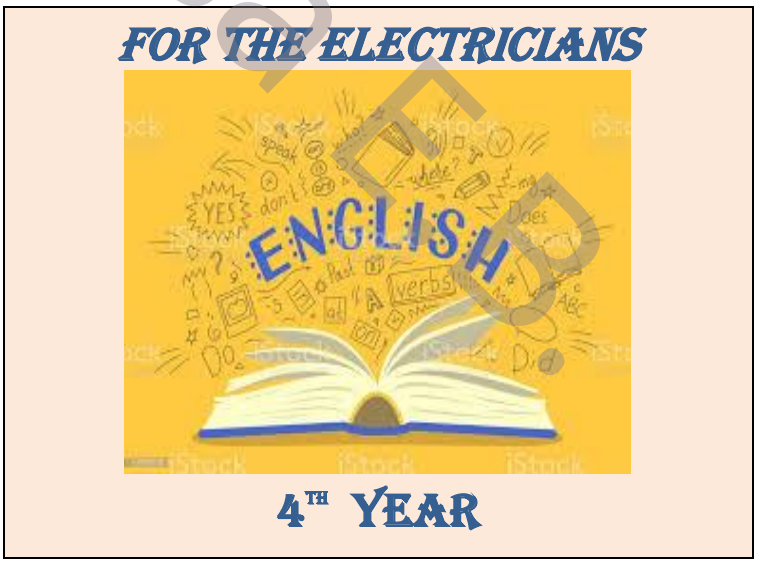
08.02.09 Монтаж, наладка и эксплуатация электрооборудования промышленных и гражданских зданий
(код специальности и ее наименование)

ОГСЭ. 03 ИНОСТРАННЫЙ ЯЗЫК В ПРОФЕССТОНАЛЬНОЙ ДЕЯТЕЛЬНОСТИ (английский)

(код и наименование учебной дисциплины)

КОНТРОЛЬНАЯ РАБОТА № 4

методические указания и контрольные задания



г. Сосногорск 2023

Савенкова Е. В.

Английский язык (текст): Задания для контрольной работы № 4 с методическими указаниями для обучающихся заочной формы обучения/Е.В. Савенкова.- Сосногорск: ГПОУ «СТТ», 2023. – 32с.

Методические указания предназначены для обучающихся заочной формы обучения по специальности 08.02.09 Монтаж, наладка и эксплуатация электрооборудования промышленных и гражданских зданий.

Выполнение данных заданий поможет обучающимся систематизировать полученные знания.

В контрольной работе предоставлены материалы, которые соответствуют материалам учебной программы дисциплины.

Содержание указаний соответствует рамкам учебной дисциплины.

Методические указания рассмотрены на заседании методической комиссии профессионального цикла ГПОУ «Сосногорского технологического техникума». Протокол № 1 от 31.01.2023

Рецензент: С.А. Пихтина, заместитель директора по ТО.

СОДЕРЖАНИЕ

ВВЕДЕНИЕ

Обучение иностранному языку является составной частью процесса подготовки специалиста, который должен активно владеть иностранным языком как средством общения в повседневной жизни и в профессиональной деятельности. При заочной форме обучении в неязыковых колледжах владение английским языком означает:

- умение самостоятельно читать со словарем литературу общебытового характера и по специальности профиля с тем, чтобы на основе приобретенных в вузе знаний, умений и навыков извлекать из нее полную и нужную информацию и при необходимости переводить тексты на родной язык;
- умение сделать монологическое сообщение в размере 18-20 фраз на все темы общебытового характера, предусмотренные программой;
- умение вести беседу диалог на базе изученных тем в объеме 9-10 фраз со стороны обоих собеседников;
- умение выполнять письменные задания на базе изученного лексико-грамматического материала.

Область применения программы

Рабочая программа учебной дисциплины является частью основной образовательной программы среднего профессионального образования по подготовке специалистов среднего звена по специальности 08.02.09 Монтаж, наладка и эксплуатация электрооборудования промышленных и гражданских зданий (базовая подготовка).

Место дисциплины в структуре основной образовательной программы: учебная дисциплина относится к общему гуманитарному и социально-экономическому циклу основной профессиональной программы.

Цели и задачи дисциплины – требования к уровню усвоения содержания дисциплины

В результате освоения дисциплины обучающийся должен уметь:

- осознавать, распознавать и создавать собственные алгоритмы продуктивной учебной деятельности по изучению иностранного языка;
- выделять главное в текстах на иностранном языке и интерпретировать прочитанное;
- применять логические приемы мышления (аналогия, сравнение, анализ, синтез);
- адекватно осуществлять самооценку и самоконтроль (до, в ходе и после выполнения работы);

- представлять результаты работы в удобной для восприятия форме.

в предметной области:

- владеть лексическим минимумом в объёме 1200-1400 лексических единиц;
- уметь распознавать основные грамматические конструкции при работе с текстом (времена, залоги, типы вопросов, модальные глаголы, согласование времен, неличные формы глагола, сослагательное наклонение);
- уметь сделать письменный перевод текста на русский язык;
- уметь вести беседу с преподавателем на темы, определённые программой (не менее 8-10 вопросов и ответов);
- понимать на слух иноязычную речь в предъявлении преподавателя или в записи, построенную на изученном материале;
- воспринимать смысловую структуру текста;
- распознавать значения слов по контексту;
- выделять главную и второстепенную информацию;
- уметь перевести незнакомый текст со словарем;
- интерпретировать содержание прочитанного текста (на русском языке);
- уметь работать со словарем;
- уметь выполнить контрольную работу на английском языке и представить в удобной для предъявления преподавателю форме.

Учебная дисциплина ОГСЭ.03. Иностранный язык (английский) способствует формированию **общих компетенций:**

Код	Наименование общих компетенций
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.	Работать в коллективе и команде, эффективно взаимодействовать с коллегами, руководством, клиентами.
ОК 9.	Использовать информационные технологии в профессиональной деятельности.
ОК 10.	Пользоваться профессиональной документацией на государственном и иностранном языках.

1 МЕТОДИЧЕСКИЕ УКАЗАНИЯ

Контрольная работа № 4 (четвертый курс). Чтобы правильно выполнить контрольное задание № 4, необходимо усвоить следующие разделы курса английского языка:

1. Раздел 3. Вводный курс профессионального английского языка.

Тема 3.2. Деловой английский. Работа с текстами «Preparation for studies abroad» «Covering letter» «Searching a job», а также выполнение лексико-грамматических упражнений.

Тема 3.3. Научно-технический прогресс. Работа с текстами- «Business trip», «Currency Exchange», а также выполнение лексико- грамматических упражнений.

Работа по изучению модальности глаголов английского языка, выполнение тренировочных упражнений.

Тема 3.4. Силовые источники. Работа с текстами- «Power sources», «Logic circuits», выполнение тематических лексико- грамматических упражнений.

2. Раздел 4. Профессионально- направленный модуль.

Тема 4.1.Электрические приборы и профильная техника. Работа с текстами- «Thermionic valves», «The tetrode and pentode», «The P-N junction», а также выполнение лексико - грамматических упражнений. Работа с профессиональным переводом текста.

Тема 4.2. Электричество и современность. Компьютерные технологии. Изучение лексико - грамматического материала.

Тема 4.3. Электрооборудование. Работа с текстом- «The bipolar transistor», а также выполнение лексико - грамматических упражнений. Работа с профессиональным переводом текста.

2 ВЫПОЛНЕНИЕ И ОФОРМЛЕНИЕ КОНТРОЛЬНЫХ ЗАДАНИЙ

Условием допуска к зачету является выполнение контрольной работы № 4.

Цель контрольных заданий – оказать помощь обучающемуся в его самостоятельной работе, а также проверить степень усвоения им учебного материала, начитанного за данный семестр.

Контрольное задание в данном пособии предлагается в 10 вариантах. Обучающийся должен выполнить один из десяти вариантов контрольного задания. Номер варианта выбирается по первой букве фамилии обучающегося по таблице:

Буква	**Номера вариантов**	**Буква**	**Номера вариантов**
А, Л, Х	1	Е, Р, Щ	6
Б, М, Ц	2	Ж, С, Э	7
В, Н, Ч	3	З, Т, Ю	8
Г, О, У	4	И, У, Я	9
Д, П, Ш	5	К, Ф	10

Оформление титульного листа (приложение А).

Контрольная работа должна быть написана в тетради четким, понятным почерком, без исправлений. На страницах работы следует оставить поля (3 см) для пометок и замечаний проверяющего преподавателя.

Левая страница	Правая страница
Поля\ Текст задания	Выполнение задания\ Поля

Обучающемуся следует первый лист в тетради оставить чистым для написания замечаний преподавателя.

При выполнении работы следует сначала указывать задания контрольной работы, а затем само выполнение задания.

Выполненную контрольную работу обучающийся должен представить преподавателю для проверки за две недели до лабораторно-экзаменационной сессии.

Дается общая оценка «зачтена» или «не зачтена». Если работа не зачтена, в нее необходимо внести соответствующие исправления с учетом сделанных замечаний. Повторная проверка работы осуществляется, как правило, тем же преподавателем, который рецензировал ее в первый раз. Обучающиеся, не выполнившие контрольную работу или не получившие зачета по ней, к зачетам не допускаются.

3 КОНТРОЛЬНОЕ ЗАДАНИЕ № 4

Вариант 1

1. Translate into English. Make five sentences using the translated collocations and any of the modal verbs (can\must\may\need).	
Russian	**English**
Работники	
официальная выписка из диплома	
официальная копия диплома	
реклама	
профессиональный	
местонахождение фирмы	
образование	
комитет по лицензиям	

2. Read the text and translate in written form.

An electromotive force is induced in the conductor when there is a change in the magnetic field surrounding a conductor. This induced electromotive force may be produced in several ways as follows:

a. A conductor may move in a stationary magnetic field of constant strength.

b. A stationary conductor may be exposed 'to a moving magnetic field of constant strength.

c. The strength of the field surrounding the conductor may change without any motion of conductor or magnetic circuit.

The electromotive force induced by motion of a conductor or a magnetic flux is the same when the conductor rotates and the flux is stationary or the flux rotates and the conductor is stationary. If both, conductor and flux, rotate in the same direction at the same speed, no electromotive force will be produced, if they rotate at the same speed but in opposite directions, the electromotive force induced would be twice as that which would be induced, if one of them was stationary. An electromotive force is not induced when a conductor is moved parallel to the lines of force, but only when it moves at an angle with these lines.

Any motion across the direction of the lines, however, will produce an electromotive force in the conductor. For this reason, the conductor is said to «cut» the lines of force. The actual electromotive force induced in the conductor depends upon the nature at which the flux is cut.

The electromotive force is the very force that moves the electrons from one point in an electric circuit towards another. In case this e. m. f. is direct, the current is direct. On the other hand, were the electromotive force alternating, the current would be alternating, too. The e. m. f. is measurable and it is the volt that

is the unit used for measuring it. A current is unable to flow in a circuit consisting of metallic wires alone. A source of an e. m. f. should be provided as well. The source under consideration may be a cell or a battery, a generator, a thermocouple or a photocell, etc.

In addition to the electromotive force and the potential difference reference should be made to another important factor that greatly influences electrical flow, namely, resistance. All substances offer a certain amount of opposition, that is to say resistance, to the passage of current. This resistance may be high or low depending on the type of circuit and the material employed. Glass and rubber offer a very high resistance and, hence, they are considered as good insulators. All substances do allow the passage of some current provided the potential difference is high enough.

Certain factors can greatly influence the resistance of an electric circuit.

They are the size of the wire, its length, and type. In short, the thinner or longer the wire, the greater is the resistance offered.

3. Give the English equivalents for the words below. Find in the text the sentences with these words and translate them.	
Russian	**English**
Трение	
электродвижущая сила	
элемент	
параллельное соединение	
сопротивление	
электромагнитная индукция	
переменный ток	
постоянное напряжение	
фотоэлемент	

4. Guess the meaning of the following international words and translate them.
Reaction- … Electrostatic-… Electrometer-… Electroscope-… Volt-… Metallic-…

5. Say whether these sentences are true (+) or false (-):	
sentences	**(+) \ (-)**
1. Alternating force always exerts its effort in one direction.	
2. Alternating force is produced by electromagnetic induction.	
3. The electromotive force is induced by motion of a conductor.	
4. Resistance is an important factor that greatly influences	

electrical flow.	
5. The type of the material employed doesn't influence the resistance.	

6. Answer the questions:
1) What factors cause the motion of electrons from one atom to another?
2) When is the electromotive force developed?
3) When does an electrostatic field appear?
4) How is the electromotive force induced?
5) What unit is used for measuring the electromotive force?

Вариант 2

1. Translate into English. Make five sentences using the translated collocation and any of the modal verbs (can\must\may\need).	
Russian	English
Требования к поступающим	
опыт	
документ	
анкетный бланк	
журналы	
навыки	
финансовая помощь	
осенний семестр	

2. Read the text and translate in written form.

The powerful, highly efficient generators and alternators that are in use today operate on the same principle as the dynamo invented by the great English scientist Faraday in 1831. Dynamo-electric machines are used to supply light, heat and power on a large scale. These are the machines that produce more than 99.99 per cent of the entire world's electric power.

There are two types of dynamos – the generator and the alternator. The former supplies d. c. which is similar to the current from a battery and the latter provides a. c. To generate electricity both of them must be continuously provided with energy from some outside source of mechanical energy such as steam engines, steam turbines or water turbines.

A generator is an electric machine, which converts mechanical energy into electric energy. There are direct-current (d. c.) generators and alternating current (a. c.) generators. Their construction is much alike. A d. c. generator consists of stationary and rotating elements. The stationary elements are: the yoke or the frame and the field structure. The yoke forms the closed circuit for the magnetic flux. The function of the magnetic structure is to produce the magnetic field.

The rotating elements are: true armature and the commutator. They are on the same shaft. The armature consists of the core and the winding. The winding is

connected to the commutator. With the help of the brushes on the commutator that conduct the electric current to the line the winding is connected to the external circuit. The stationary element of an a. c. generator is called a stator. The rotating element is called a rotor. 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.

D. c. generators are used for electrolytic processes such as electroplating. Large d. c. generators are employed in such manufacturing processes 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.

3. Give the English equivalents for the words below. Find in the text the sentences with these words and translate them.	
Russian	**English**
Мощность	
низкая емкость	
стационарный элемент	
вращающиеся элементы	
генераторы	
два типа\вида	
электрический ток	
разница между	
статор	

4. Guess the meaning of the following international words and translate them.
System- … Electrolytic -… Electrometer-… Electroscope-… Generator-… Metallic-…

5. Say whether these sentences are true (+) or false (-):	
sentences	**(+) \ (-)**
1. There are five types of dynamos.	
2. A generator is an electric machine.	
3. The rotating elements are: true armature and the commutator.	
4. It also finds rather extensive use in connection with each system.	
5. D. c. generators are used for electrolytic processes such as	

electroplating.	

6. Answer the questions:
1) What types of dynamos do you know?
2) What are dynamo-electric machines used to?
3) What does the armature consist of?
4) What type of a machine is the generator?
5) What do you know about the commutator?

Вариант 3

1. Translate into English. Make five sentences using the translated collocation and any of the modal verbs (can\must\may\need).	
Russian	**English**
Список дисциплин	
прием в качестве студента	
сдать экзамен	
анкетный бланк	
представить резюме	
подробные данные	
заработать много денег	
рабочий день	

2. Read the text and translate in written form.

D. c. generators are used for electrolytic processes such as electroplating. Large d. c. generators are employed in such manufacturing processes 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. There are two types of dynamos – the generator and the alternator. The former supplies d. c. which is similar to the current from a battery and the latter provides a. c. To generate electricity both of them must be continuously provided with energy from some outside source of mechanical energy such as steam engines, steam turbines or water turbines.

The powerful, highly efficient generators and alternators that are in use today operate on the same principle as the dynamo invented by the great English scientist Faraday. Dynamo-electric machines are used to supply light, heat and power on a large scale. These are the machines that produce more than 99.99 per cent of the entire world's electric power.

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are direct-current (d. c.) generators and alternating current (a. c.) generators. Their construction is much alike. A d. c. generator consists of stationary and rotating elements. The rotating elements are: true armature and the commutator. They are on the same shaft. The armature consists of the core and the winding.

The winding is connected to the commutator. With the help of the brushes on the commutator that conduct the electric current to the line the winding is connected to the external circuit.

The stationary elements are: the yoke or the frame and the field structure. The yoke forms the closed circuit for the magnetic flux. The function of the magnetic structure is to produce the magnetic field.

3. Give the English equivalents for the words below. Find in the text the sentences with these words and translate them.	
Russian	**English**
Электрический ток	
автомобильный генератор	
обеспечить	
вращающиеся элементы	
рама	
механическая энергия	
элементы	
процесс производства	
магнитный	

4. Guess the meaning of the following international words and translate them.
Electroscope - … Process -… Metallic -… Energy -… Elements -… Electrometer -…

5. Say whether these sentences are true (+) or false (-):	
sentences	**(+) \ (-)**
1. The stationary elements are: the yoke or the frame and the field structure.	
2. There are two types of dynamos – the generator and the alternator.	
3. Dynamo-electric machines are used to supply mass, heat and power on a large scale.	
4. A generator is not an electric machine.	
5. The rotating element is called a rotor.	

6. Answer the questions:
1) What do you know about the commutator?
2) What does the armature consist of?
3) What types of dynamos do you know?
4) What are dynamo-electric machines used to?
5) What type of a machine is the generator?

Вариант 4

1. Translate into English. Make five sentences using the translated collocation and any of the modal verbs (can\must\may\need).	
Russian	**English**
Список дисциплин	
учебное заведение	
обобщение сведений	
оплата	
заявление-анкета	
контакты	
подходящая работа	
надежность работника	

2. Read the text and translate in written form.

Ammeters and voltmeters are made to operate on the same principle. The two principle kinds are the moving coil and moving iron types.

The electro-magnetic effect of the current is the one chiefly made use of for measuring purposes. Moving iron instruments employ this effect. The moving-iron instrument consists of a fixed coil of wire carrying the current which magnetizes a small piece of soft iron mounted on the instrument spindle. In construction there are two varieties: the repulsion type having two pieces of iron; and the attraction type having only one.

In the attraction type of the instrument the bobbin carrying the wire is oblong instead of circular, and has only a narrow slot-shaped opening in the center.

A thin flat piece of iron, which is mounted on the instrument spindle, is sucked into this opening by magnetic attraction when the current flows. Either gravity or spring control can be used on moving-iron instruments and damping is usually by means of an air-dash-pot.

A moving-coil instrument may be compared to a miniature direct-current motor in which the armature never moves more than about a quarter of a revolution.

When a current flows through the coil of a moving-coil type ammeter, it becomes a magnet, one face being of north, and the other of south polarity.

These poles are attracted by the poles of opposite polarity of the permanent magnet, and the coil tends to turn until its axis is parallel with the line joining the pole pieces of the permanent magnet. This movement is proportional to the current flowing and is opposed by the control springs. A pointer fixed to the coils moves over a graduated scale and indicates the current flowing in amperes. The scale of this type of instrument is evenly divided, but the positive terminal must be connected to the positive terminal of the supply or the instrument tends to read backward. Such an instrument is only suitable for d. c. circuits.

Moving-coil instruments are more accurate and sensitive, but more expensive than those of moving-iron types.

3. Give the English equivalents for the words below. Find in the text the sentences with these words and translate them.	
Russian	**English**
Тот же принцип	
железо\ железный	
электрический ток	
маленький кусочек	
тип\разновидность	
инструмент	
полярность	
постоянный	
подходить для	

4. Guess the meaning of the following international words and translate them.
Type - … Permanent -… Metallic -… Energy -… Indicate -… Electrometer -…

5. Say whether these sentences are true (+) or false (-):	
sentences	**(+) \ (-)**
1. A moving-coil instrument may not be compared to a miniature direct-current motor.	
2. In the attraction type of the instrument the bobbin carrying the wire is not oblong instead of circular.	
3. This movement is proportional to the current flowing and is opposed by the control springs.	

4. Moving-coil instruments are more accurate and sensitive.	
5. A pointer fixed to the coils moves over a graduated scale and indicates the current flowing in amperes.	

6. Answer the questions:
1) What are the two principle kinds of ammeters and voltmeters?
2) What is the construction of a moving iron instrument?
3) What are the two types of moving iron instrument?
4) How does a moving coil instrument work?
5) What instrument is suitable only for d.c.?

Вариант 5

1. Translate into English. Make five sentences using the translated collocation and any of the modal verbs (can\must\may\need).	
Russian	**English**
Дополнительная информация	
оплата	
объявления о приеме на работу	
рекомендация	
служба трудоустройства	
медицинское обследование	
разрешение на работу	
личный листок	

2. Read the text and translate in written form.

The electromotive force is the very force that moves the electrons from one point in an electric circuit towards another. In case this e. m. f. is direct, the current is direct. On the other hand, were the electromotive force alternating, the current would be alternating, too. The e. m. f. is measurable and it is the volt that is the unit used for measuring it. A current is unable to flow in a circuit consisting of metallic wires alone. A source of an e. m. f. should be provided as well. The source under consideration may be a cell or a battery, a generator, a thermocouple or a photocell, etc.

The electromotive force induced by motion of a conductor or a magnetic flux is the same when the conductor rotates and the flux is stationary or the flux rotates and the conductor is stationary. If both, conductor and flux, rotate in the same direction at the same speed, no electromotive force will be produced, if they rotate at the same speed but in opposite directions, the electromotive force induced would be twice as that which would be induced, if one of them was stationary. An electromotive force is not induced when a conductor is moved parallel to the lines of force, but only when it moves at an angle with these lines.

An electromotive force is induced in the conductor when there is a change in the magnetic field surrounding a conductor. This induced electromotive force may be produced in several ways as follows:

a. A conductor may move in a stationary magnetic field of constant strength.

b. A stationary conductor may be exposed 'to a moving magnetic field of constant strength.

c. The strength of the field surrounding the conductor may change without any motion of conductor or magnetic circuit.

In addition to the electromotive force and the potential difference reference should be made to another important factor that greatly influences electrical flow, namely, resistance. All substances offer a certain amount of opposition, that is to say resistance, to the passage of current. This resistance may be high or low depending on the type of circuit and the material employed. Glass and rubber offer a very high resistance and, hence, they are considered as good insulators. All substances do allow the passage of some current provided the potential difference is high enough.

Certain factors can greatly influence the resistance of an electric circuit.

They are the size of the wire, its length, and type. In short, the thinner or longer the wire, the greater is the resistance offered.

Any motion across the direction of the lines, however, will produce an electromotive force in the conductor. For this reason, the conductor is said to «cut» the lines of force. The actual electromotive force induced in the conductor depends upon the nature at which the flux is cut.

3. Give the English equivalents for the words below. Find in the text the sentences with these words and translate them.	
Russian	**English**
Переменный ток	
постоянное напряжение	
элемент	
параллельное соединение	
сопротивление	
фотоэлемент	
трение	
электродвижущая сила	
электромагнитная индукция	

4. Guess the meaning of the following international words and translate them.
Conductor - … Electrostatic-… Electrometer-… Electromotive -… Reactor-…

Metallic-…

5. Say whether these sentences are true (+) or false (-):	
sentences	**(+) \ (-)**
1. Resistance is an important factor that greatly influences electrical flow.	
2. The type of the material employed doesn't influence the resistance.	
3. The electromotive force is induced by motion of a conductor.	
4. Alternating force always exerts its effort in one direction.	
5. Alternating force is produced by electromagnetic induction.	

6. Answer the questions:
1) What are the sources of electromotive force?
2) When is the electromotive force developed?
3) What is called "resistance"?
4) How do the types of circuit and material influence the resistance?
5) Name the factors that influence the resistance.

Вариант 6

1. Translate into English. Make five sentences using the translated collocation and any of the modal verbs (can\must\may\need).	
Russian	**English**
Руководство (печатное издание)	
прием в качестве студента	
навыки	
проверка	
предприниматели	
учебное заведение	
экзамен по вождению автомобиля	
объявления о приеме на работу	
рекомендация	

2. Read the text and translate in written form.

An induction motor like any other motor consists of a stationary part, the stator, and a rotating part, the rotor. The rotor of an induction motor is not connected electrically to the source of power supply. The currents which circulate in the rotor conductors are the result of voltage induced in the rotor in the magnetic field set up by the stator. The rotor is fitted with a set of conductors in which currants flow. As these conductors lie in the magnetic field produced by the stator, a force is exerted on the conductors and the rotor begins to revolve. The operation of the motor depends upon the production of a rotating magnetic field. The speed at which the field of an induction motor turns is called the synchronous speed of the field or of the motor.

The induction motor is the simplest of the various types of electric motors and it has found more extensive application in industry than any other type. It is made in two forms – the squirrel cage and the wound rotor, the difference being in the construction of the rotor.

The stator of the induction motor has practically the same slot and winding arrangement as the alternator and has the coils arranged to form a definite number of poles, the number of poles being a determining factor in connection with the speed at which the motor will operate. The rotor construction, however, is entirely different.

The squirrel-cage rotor is a simpler form and has been used in many machines. Instead of coils the winding consists of heavy copper bars.

The wound-rotor type has a winding made up of well-insulated coils, mounted in groups whose end connections are brought out to fill in rings. The purpose of this winding is to provide for variation in the amount of resistance included in the rotor circuit.

Provision for ventilation is made by leaving passageways through the core and frame, through which air is forced by fan vanes mounted on the rotor. In main cases the motors now built in as an integral part of the machine it is to drive.

There being no electrical connection between the rotor circuits of the induction motor and the stator circuits, or supply line, the currents which flow in the rotor bars or windings correspond to the induced voltages, the action being similar to that of a transformer with a movable secondary. With but a single phase winding on the stator, however, the torques produced in the two halves of the rotor would be in apposition, and the motor would not start. With more than one set of windings two for a two-phase motor, three for a three-phase motor a resultant field is produced which has the effect of cutting across the rotor conductors and induces voltages in them. This field is considered to be revolving at uniform speed.

The term “revolving field” should not be taken to mean actual revolution of flux lines. The magnetic field from the coils of each phase varies in strength with changes in current value but does not move around the stator. The revolutions are those of the resultant of the three, or two, phases, as the case may be.

A motor with a single-phase winding is not self-starting but must be provided with an auxiliary device of some kind to enable the motor to develop a starting torque. The effect of the revolving field is the same as would result from actual revolution of a stator having direct-current poles. As voltages have been induced in the bars or windings of the rotor, currants start flowing as a result of these voltages, and a torque is produced which brings the motor up to speed.

3. Give the English equivalents for the words below. Find in the text the sentences with these words and translate them.	
Russian	**English**
Индукционный мотор	
стационарная часть	
магнитное поле	
фактор	
мотор	
развивать	

отдельная фаза	
напряжение	
скорость\ ускорение	

4. Guess the meaning of the following international words and translate them.
Rotor - … Electrolytic -… Actual -… System -… Voltage-… Electrometer -…

5. Say whether these sentences are true (+) or false (-):	
sentences	**(+) \ (-)**
1. An induction motor like any other motor consists of a stationary part, the stator, and a rotating part, the rotor.	
2. The operation of the motor does not depend upon the production of a rotating magnetic field.	
3. The wound-rotor type has a winding made up of well-insulated coils, mounted in groups whose end connections are brought out to fill in rings.	
4. The rotor of an induction motor is not connected electrically to the source of power supply.	
5. The effect of the revolving field is the same as would result from actual revolution of a stator having direct-current poles.	

6. Answer the questions:
1) What is an induction motor?
2) Is the rotor fitted with a set of conductors in which currants flow.?
3) What parts does the induction motor consist of?
4) What are the names of its rotating and stationary parts?
5) What does the motor operation depend on?

Вариант 7

1. Translate into English. Make five sentences using the translated collocation and any of the modal verbs (can\must\may\need).	
Russian	**English**
Разрешение на работу	
представить резюме	
осенний семестр	
профессиональный опыт	
личные качества	
рабочий опыт	

финансовая помощь	
лицензия	

2. Read the text and translate in written form.

The rotating elements are: true armature and the commutator. They are on the same shaft. The armature consists of the core and the winding. The winding is connected to the commutator. With the help of the brushes on the commutator that conduct the electric current to the line the winding is connected to the external circuit.

The stationary element of an a. c. generator is called a stator. The rotating element is called a rotor. 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. A generator is an electric machine, which converts mechanical energy into electric energy. There are direct-current (d. c.) generators and alternating current (a. c.) generators. Their construction is much alike. A d. c. generator consists of stationary and rotating elements. There are two types of dynamos – the generator and the alternator. The former supplies d. c. which is similar to the current from a battery and the latter provides a. c. To generate electricity both of them must be continuously provided with energy from some outside source of mechanical energy such as steam engines, steam turbines or water turbines. The powerful, highly efficient generators and alternators that are in use today operate on the same principle as the dynamo invented by the great English scientist Faraday. Dynamo-electric machines are used to supply light, heat and power on a large scale. These are the machines that produce more than 99.99 per cent of all the world's electric power.

The stationary elements are: the yoke or the frame and the field structure. The yoke forms the closed circuit for the magnetic flux. The function of the magnetic structure is to produce the magnetic field.

D. c. generators are used for electrolytic processes such as electroplating. Large d. c. generators are employed in such manufacturing processes 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.

3. Give the English equivalents for the words below. Find in the text the sentences with these words and translate them.

Russian	English
Электрический ток	
низкая емкость	
два типа\вида	
вращающиеся элементы	
статор	
стационарный элемент	
мощность	

разница между	
генераторы	

4. Guess the meaning of the following international words and translate them.
Electroscope - … Electrolytic -… Metallic -… System -… Generator-… Electrometer -…

5. Say whether these sentences are true (+) or false (-):	
sentences	**(+) \ (-)**
1. D. c. generators are used for electrolytic processes such as electroplating.	
2. The rotating elements are: true armature and the commutator.	
3. A generator is an electric machine.	
4. It also finds rather extensive use in connection with each system.	
5. There are two types of dynamos.	

6. Answer the questions:
1) What does the armature consist of?
2) What do you know about the commutator?
3) What types of dynamos do you know?
4) What type of a machine is the generator?
5) What are dynamo-electric machines used to?

Вариант 8

1. Translate into English. Make five sentences using the translated collocation and any of the modal verbs (can\must\may\need).	
Russian	**English**
Служить в армии	
предложения	
обобщение сведений	
документ	
интересы	
рекомендации	
заработать много денег	
подходящая работа	

2. Read the text and translate in written form.

The stator of the induction motor has practically the same slot and winding arrangement as the alternator and has the coils arranged to form a definite number of poles, the number of poles being a determining factor in connection with the speed at which the motor will operate. The rotor construction, however, is entirely different.

The squirrel-cage rotor is a simpler form and has been used in many machines. Instead of coils the winding consists of heavy copper bars.

The wound-rotor type has a winding made up of well-insulated coils, mounted in groups whose end connections are brought out to fill in rings. The purpose of this winding is to provide for variation in the amount of resistance included in the rotor circuit.

Provision for ventilation is made by leaving passageways through the core and frame, through which air is forced by fan vanes mounted on the rotor. In main cases the motors now built in as an integral part of the machine it is to drive.

There being no electrical connection between the rotor circuits of the induction motor and the stator circuits, or supply line, the currents which flow in the rotor bars or windings correspond to the induced voltages, the action being similar to that of a transformer with a movable secondary. With more than one set of windings two for a two-phase motor, three for a three-phase motor a resultant field is produced which has the effect of cutting across the rotor conductors and induces voltages in them. This field is considered to be revolving at uniform speed.

The term "revolving field" should not be taken to mean actual revolution of flux lines. The magnetic field from the coils of each phase varies in strength with changes in current value but does not move around the stator. The revolutions are those of the resultant of the three, or two, phases, as the case may be.

A motor with a single-phase winding is not self-starting but must be provided with an auxiliary device of some kind to enable the motor to develop a starting torque. The effect of the revolving field is the same as would result from actual revolution of a stator having direct-current poles. As voltages have been induced in the bars or windings of the rotor, currants start flowing as a result of these voltages, and a torque is produced which brings the motor up to speed. An induction motor like any other motor consists of a stationary part, the stator, and a rotating part, the rotor. The rotor of an induction motor is not connected electrically to the source of power supply. The currents which circulate in the rotor conductors are the result of voltage induced in the rotor in the magnetic field set up by the stator. The rotor is fitted with a set of conductors in which currants flow. As these conductors lie in the magnetic field produced by the stator, a force is exerted on the conductors and the rotor begins to revolve. The operation of the motor depends upon the production of a rotating magnetic field. The induction motor is the simplest of the various types of electric motors and it has found more extensive application in industry than any other type. It is made in two forms – the squirrel cage and the wound rotor, the difference being in the construction of the rotor.

3. Give the English equivalents for the words below. Find in the text the sentences with these words and translate them.

Russian	English
Фактор	
стационарная часть	
отдельная фаза	
индукционный мотор	
мотор	
развивать	
магнитное поле	
напряжение	
ускорение	

4. Guess the meaning of the following international words and translate them.
Motor - … Voltage -… Actual -… System -… Electrolytic -… Electrometer -…

5. Say whether these sentences are true (+) or false (-):	
sentences	**(+) \ (-)**
1. The wound-rotor type has a winding made up of well-insulated coils, mounted in groups whose end connections are brought out to fill in rings.	
2. The rotor of an induction motor is not connected electrically to the source of power supply.	
3. An induction motor like any other motor consists of a stationary part, the stator, and a rotating part, the rotor.	
4. The operation of the motor does not depend upon the production of a rotating magnetic field.	
5. The effect of the revolving field is the same as would result from actual revolution of a stator having direct-current poles.	

6. Answer the questions:
1) What does the motor operation depend on??
2) Is the rotor fitted with a set of conductors in which currants flow?
3) How can the difference between stator and rotor construction be explained?
4) What are the names of its rotating and stationary parts?
5) What does the term “revolving field” mean?

Вариант 9

1. Translate into English. Make five sentences using the translated

collocation and any of the modal verbs (can\must\may\need).	
Russian	**English**
Рабочее время	
претендовать на… (работу)	
копия свидетельства	
заявление-анкета	
отбор работника	
грамотно писать	
работать аккуратно	
трудовой стаж	

2. Read the text and translate in written form.

The squirrel-cage rotor is a simpler form and has been used in many machines.

Instead of coils the winding consists of heavy copper bars.

The wound-rotor type has a winding made up of well-insulated coils, mounted in groups whose end connections are brought out to fill in rings. The purpose of this winding is to provide for variation in the amount of resistance included in the rotor circuit. The stator of the induction motor has practically the same slot and winding arrangement as the alternator and has the coils arranged to form a definite number of poles, the number of poles being a determining factor in connection with the speed at which the motor will operate. The rotor construction, however, is entirely different.

There being no electrical connection between the rotor circuits of the induction motor and the stator circuits, or supply line, the currents which flow in the rotor bars or windings correspond to the induced voltages, the action being similar to that of a transformer with a movable secondary. With more than one set of windings two for a two-phase motor, three for a three-phase motor a resultant field is produced which has the effect of cutting across the rotor conductors and induces voltages in them. This field is considered to be revolving at uniform speed.

The term “revolving field” should not be taken to mean actual revolution of flux lines. The magnetic field from the coils of each phase varies in strength with changes in current value but does not move around the stator. The revolutions are those of the resultant of the three, or two, phases, as the case may be.

Provision for ventilation is made by leaving passageways through the core and frame, through which air is forced by fan vanes mounted on the rotor. In main cases the motors now built in as an integral part of the machine it is to drive.

A motor with a single-phase winding is not self-starting but must be provided with an auxiliary device of some kind to enable the motor to develop a starting torque. The effect of the revolving field is the same as would result from actual revolution of a stator having direct-current poles. As voltages have been induced in the bars or windings of the rotor, currants start flowing as a result of these voltages, and a torque is produced which brings the motor up to speed. An induction motor like any other motor consists of a stationary part, the stator, and a rotating part, the rotor. The rotor of an induction motor is not connected electrically to the source of power supply. The currents which circulate in the rotor

conductors are the result of voltage induced in the rotor in the magnetic field set up by the stator. The rotor is fitted with a set of conductors in which currants flow.

The operation of the motor depends upon the production of a rotating magnetic field. The induction motor is the simplest of the various types of electric motors and it has found more extensive application in industry than any other type. It is made in two forms – the squirrel cage and the wound rotor, the difference being in the construction of the rotor.

3. Give the English equivalents for the words below. Find in the text the sentences with these words and translate them.	
Russian	**English**
Фактор	
отдельная фаза	
магнитное поле	
индукционный мотор	
мотор	
развивать	
стационарная часть	
напряжение	
ускорение	

4. Guess the meaning of the following international words and translate them.
Actual - … Voltage -… Motor -… Electrometer -… Electrolytic -… System -…

5. Say whether these sentences are true (+) or false (-):	
sentences	**(+) \ (-)**
1. The rotor of an induction motor is not connected electrically to the source of power supply.	
2. The wound-rotor type has a winding made up of well-insulated coils.	
3. The operation of the motor does not depend upon the production of a rotating magnetic field.	
4. An induction motor like any other motor consists of a stationary part, the stator, and a rotating part.	
5. The effect of the revolving field is the same as would result from actual revolution of a stator having direct-current poles.	

6. Answer the questions:

1) What does the term “revolving field” mean?
2) Is the rotor fitted with a set of conductors in which currants flow?
3) How can the difference between stator and rotor construction be explained?
4) What are the names of its rotating and stationary parts?
5) What does the motor operation depend on?

Вариант 10

1. Translate into English. Make five sentences using the translated collocation and any of the modal verbs (can\must\may\need).	
Russian	**English**
Дополнительная информация	
оплата	
объявления о приеме на работу	
рекомендация	
служба трудоустройства	
медицинское обследование	
разрешение на работу	
личный листок	

2. Read the text and translate in written form.

The electro-magnetic effect of the current is the one chiefly made use of for measuring purposes. Moving iron instruments employ this effect.

The moving- iron instrument consists of a fixed coil of wire carrying the current which magnetizes a small piece of soft iron mounted on the instrument spindle. In construction there are two varieties: the repulsion type having two pieces of iron; and the attraction type having only one.

In the attraction type of the instrument the bobbin carrying the wire is oblong instead of circular, and has only a narrow slot-shaped opening in the center. Ammeters and voltmeters are made to operate on the same principle. The two principle kinds are the moving coil and moving iron types.

A thin flat piece of iron, which is mounted on the instrument spindle, is sucked into this opening by magnetic attraction when the current flows. Either gravity or spring control can be used on moving-iron instruments and damping is usually by means of an air-dash-pot.

When a current flows through the coil of a moving-coil type ammeter, it becomes a magnet, one face being of north, and the other of south polarity. Moving-coil instruments are more accurate and sensitive, but more expensive than those of moving-iron types.

These poles are attracted by the poles of opposite polarity of the permanent magnet, and the coil tends to turn until its axis is parallel with the line joining the pole pieces of the permanent magnet. This movement is proportional to the current flowing and is opposed by the control springs.

A pointer fixed to the coils moves over a graduated scale and indicates the current flowing in amperes. The scale of this type of instrument is evenly divided, but the positive terminal must be connected to the positive terminal of the supply or the instrument tends to read backward.

Such an instrument is only suitable for d. c. circuits. A moving-coil instrument may be compared to a miniature direct-current motor in which the armature never moves more than about a quarter of a revolution.

3. Give the English equivalents for the words below. Find in the text the sentences with these words and translate them.	
Russian	**English**
тип\разновидность	
подходить для	
электрический ток	
маленький кусочек	
Тот же принцип	
постоянный	
полярность	
инструмент	
железо\ железный	

4. Guess the meaning of the following international words and translate them.
Type - … Permanent -… Fixed -… Electrometer -… Indicate -… Energy -…

5. Say whether these sentences are true (+) or false (-):	
sentences	**(+) \ (-)**
1. Moving-coil instruments are more accurate and sensitive.	
2. This movement is proportional to the current flowing and is opposed by the control springs.	
3. In the attraction type of the instrument the bobbin carrying the wire is not oblong instead of circular.	
4. A pointer fixed to the coils moves over a graduated scale and indicates the current flowing in amperes.	
5. A moving-coil instrument may not be compared to a miniature direct-current motor.	

6. Answer the questions:
1) What instruments are more expensive and sensitive: moving coil or moving

iron instruments?
2) What instrument is suitable only for d.c.?
3) What are the two types of moving iron instrument?
4) How does a moving coil instrument work?
5) What is the construction of a moving iron instrument?

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ПРИЛОЖЕНИЕ

ПРИЛОЖЕНИЕ А

Образец заполнения титульного листа домашней контрольной работы

Государственное профессиональное образовательное учреждение

«Сосногорский технологический техникум»

ОТДЕЛЕНИЕ СРЕДНЕГО ПРОФЕССИОНАЛЬНОГО ОБРАЗОВАНИЯ

(ЗАОЧНАЯ ФОРМА ОБУЧЕНИЯ)

КОНТРОЛЬНАЯ РАБОТА № 4

по учебной дисциплине ОГСЭ.03. Иностранный язык (английский)

08.02.09 Монтаж, наладка и эксплуатация электрооборудования промышленных и гражданских зданий

(код специальности и ее наименование)

Курс - ___

Шифр - ___

Вариант - ___

Исполнитель: № группы 44-МН

Обучающийся группы _____

_____

(фамилия, имя, отчество полностью)

_____

Домашний адрес: _____

_____

Дата сдачи контрольной работы

«____»_____20__г.

Преподаватель: _____

Отметка: _____

«____»_____20__г.

Подпись преподавателя _____

г. Сосногорск 20___ год