

1. Типовые контрольные задания и иные материалы, необходимые для оценки знаний, умений, навыков и (или) опыта деятельности

Test 1.

I. Прочитайте текст и установите соответствие между абзацами 1-4 и заголовками. Один заголовок лишний.

Losses of horticultural produce

A. Fruits and vegetables are very susceptible to water loss

B. On-farm causes of loss

C. Losses of horticultural produce are a waste of food, human effort, and money.

D. Damage in the marketing chain

E. Poor-quality markets often provide little protection for the produce against the elements, leading to rapid produce deterioration.

1. Losses of horticultural produce are a major problem in the post-harvest chain. They can be caused by a wide variety of factors, ranging from growing conditions to handling at retail level. Not only are losses clearly a waste of food, but they also represent a similar waste of human effort, farm inputs, livelihoods, investments and scarce resources such as water. It should also be noted that there can be losses in quality, as measured both by the price obtained and the nutritional value, as well as in quantity.

2. There are numerous factors affecting post-harvest losses, from the soil in which the crop is grown to the handling of produce when it reaches the shop. Pre-harvest production practices may seriously affect post-harvest returns. Plants need a continuous supply of water for photosynthesis and transpiration. Damage can be caused by too much rain or irrigation, which can lead to decay; by too little water; and by irregular water supply, which can, for example, lead to growth cracks. Lack of plant food can affect the quality of fresh produce, causing stunted growth or discoloration of leaves, abnormal ripening and a range of other factors. Good crop husbandry is important for reducing losses. Weeds compete with crops for nutrients and soil moisture. Decaying plant residues in the field are also a major loss factor.

3. Fruits and vegetables are living parts of plant and contain 65 to 95 percent water. When food and water reserves are exhausted, produce dies and decays. Anything that increases the rate at which a product's food and water reserves are used up increases the likelihood of losses. Increases in normal physiological changes can be caused by high temperature, low atmospheric humidity and physical injury. Such injury often results from careless handling, causing internal bruising, splitting and skin breaks, thus rapidly increasing water loss.

4. Fruits and vegetables are very susceptible to mechanical injury. This can occur at any stage of the marketing chain and can result from poor harvesting practices such as the use of dirty cutting knives; unsuitable containers used at harvest time or during the marketing process, e.g. containers that can be easily squashed or have splintered wood, sharp edges or poor nailing; overpacking or underpacking of containers; and careless handling of containers. Resultant damage can include splitting of fruits, internal bruising, superficial grazing, and crushing of soft produce. Poor handling can thus result in development of entry points for molds and bacteria, increased water loss, and an increased respiration rate.

Technical assistance

Read the text about maintenance and answer the questions.

Any machine and device must be controlled regularly in order to avoid the risk of damage or breakdown of single parts due to long usage. Sometimes, if a proper maintenance is not done, a fault could occur, with negative consequences on the production process and on the workers' safety. The primary goal of maintenance is to avoid or mitigate the consequences of **failure** of equipment. This includes performing routine actions to keep

the device in working order and prevent the failure before it actually occurs (preventive maintenance), or fixing equipment after breakdown (corrective maintenance).

Preventive maintenance is designed to preserve and restore equipment reliability by replacing **worn** components before they actually fail. It includes maintenance activities such as partial or complete **overhauls** at specified periods, oil changes and **lubrication**. The ideal preventive maintenance is a combination of technical, administrative and managerial actions to prevent all equipment failure. If carried out properly, preventive maintenance can extend the life of the equipment.

Corrective maintenance, sometimes simply called 'repair', is carried out to get equipment working again. It **aims at** restoring the functionality of a machine so that it can continue to perform its work. This type of maintenance can be very expensive because sometimes equipment needs to be replaced, with substantial costs for the company.

Generally, maintenance is **scheduled** according to:

- the original equipment manufacturer's recommendations;
- codes and legislation within a country;
- **consultancy** advice;
- previous maintenance;
- most important measured values and performance indications.

- 1 Why is maintenance important?
- 2 What are the main types of maintenance?
- 3 What is the function of preventive maintenance?
- 4 Which activities does it include?
- 5 What is maintenance called if it occurs after a failure?
- 6 Why can corrective maintenance be expensive?

2. Find the terms and collocations in the text, translate them, after write the example sentences of your own.

equipment

device

in order to avoid the risk of

damage breakdown

single parts

due to long usage

to do a proper maintenance

a fault could occur
 with negative consequences on
 workers' safety
 the primary goal of maintenance
 to fail
 to avoid or mitigate the consequences of failure of equipment
 to perform routine actions
 to keep the device in working order
 prevent the failure before it actually occurs
 preventive maintenance
 corrective maintenance
 to fix equipment after breakdown
 to preserve and restore equipment reliability
 by replacing worn components
 partial or complete overhauls
 at specified periods
 if carried out properly
 to extend the life of the equipment
 repair is carried out
 it aims at restoring the functionality
 with substantial costs for the company
 to schedule according to
 the original equipment manufacturer's recommendations
 codes and legislation within a country
 consultancy advice
 previous maintenance
 measured values and performance indications

3.

Read the text again and match the words with their definitions.

- | | |
|---------------|--|
| 1 fault | a ☐ damaged and in poor condition as a result of much use |
| 2 to mitigate | b ☐ a set of rules about how something must be done |
| 3 to fix | c ☐ expert advice within a particular field |
| 4 overhaul | d ☐ applying a greasy substance to reduce friction |
| 5 worn | e ☐ a break or other defect in a piece of machinery |
| 6 lubrication | f ☐ to do the necessary work to repair something that doesn't work properly |
| 7 code | g ☐ to make something less severe or unpleasant |
| 8 consultancy | h ☐ a careful examination of a machinery or system that must be repaired |

4. Use the questions above to give a 3 min. talk about technical assistance.

Test 3

What is electricity?

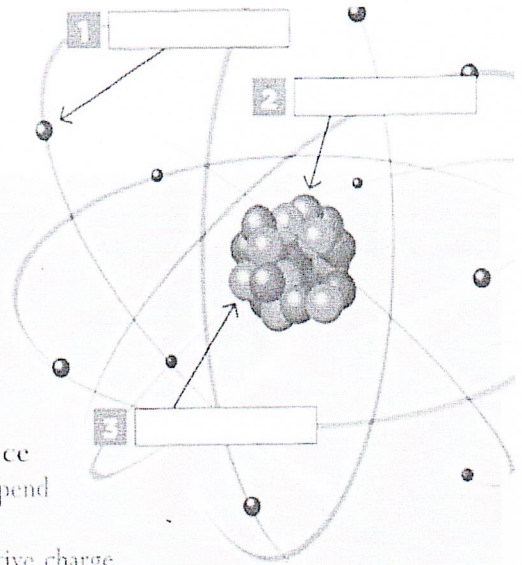
- 1 Read the text and label the picture with the name of each part.

All substances, solids, liquids or gases, are composed of one or more of the chemical elements. Each element is composed of identical atoms.

Each atom is composed of a small central nucleus consisting of protons and neutrons around which orbit shells of electrons. These electrons are very much smaller than protons and neutrons.

The electrons in the **outermost** shell are called **valence** electrons and the electrical **properties** of the substance depend on the number of these electrons.

Neutrons have no electric **charge**, but protons have a positive charge while electrons have a negative charge. In some substances, usually metals, the valence electrons are free to move from one atom to another and this is what constitutes an electric current.



- 2 Read the text again and complete the sentences with the missing information.

- 1 Elements make up _____
- 2 Identical atoms _____
- 3 Atoms consist of _____, _____ and _____
- 4 Inside there are _____ and _____, while outside _____
- 5 Shells _____
- 6 Valence electrons _____
- 7 Neutrons do not have _____
- 8 Electricity is generated when _____

- 3 Listen and complete the text with the missing information.

Electricity consists of a (1) _____ of free electrons along a conductor. To produce this **current flow**, a generator is placed at the end of the conductor in order to move the (2) _____.

Conductors

Electricity needs a material which allows a current to **pass through** easily, which offers little (3) _____ to the flow and is full of free electrons. This material is called a conductor and can be in the form of a bar, tube or sheet. The most commonly used (4) _____ are wires, available in many sizes and **thicknesses**. They are **coated** with insulating materials such as plastic.

Semiconductors

Semiconductors such as silicon and germanium are used in transistors and their conductivity is **halfway** in between a conductor and an (5) _____.

Small quantities of other substances, called **impurities**, are introduced in the material to (6) _____ the conductivity.

Insulators

A material which contains very (7) _____ electrons is called an insulator. Glass, rubber, dry wood and (8) _____ resist the flow of electric charge, and as such they are good insulating materials.

Increasing Conducting Ability	Conductors		Silver
			Copper
			Aluminium
			Iron
			Mercury
			Carbon
			Water
	Semiconductors		Germanium
			Silicon
	Insulators		Dry air
			Wood
			Glass
			Rubber

4 Read the text again and decide if the following statements are true (T) or false (F), then correct the false ones.

- 1 A flow of electrons moving inside a conductor creates an electric current. _____
- 2 A generator is used to move the charges. _____
- 3 Electrons can easily pass through any material. _____
- 4 Any material is a good conductor. _____
- 5 Conductors are coated with insulators. _____
- 6 The presence of free electrons affects the conductivity of materials. _____
- 7 Impurities are introduced to increase conductivity. _____
- 8 Insulating materials resist the flow of electrons. _____

5 Read the text and complete the table with the missing information.

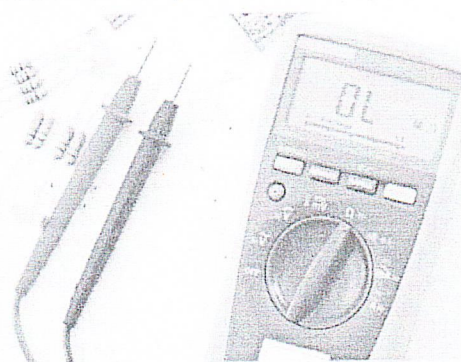
There are two types of current: Direct current (DC) and Alternating current (AC).

Direct current is a continuous flow of electrons in one direction and it never changes its direction until the power is stopped or **switched off**.

Alternating current constantly changes its direction because of the way it is generated. The term 'frequency' is used to indicate how many times the current changes its direction in one second.

Alternating current has a great advantage over direct current because it can be transmitted over very long distances through small wires, by making energy high voltage and low current.

There are several quantities that are important when we are talking about electric current. Volts (V) – so **named**



after the Italian physicist Alessandro Volta – measure the difference of electric potential between two points on a conducting wire. Amperes (A) measure the amount of current flowing through a conductor, that is to say the number of electrons passing a point in a conductor in one second.

Coulomb (C) measure the quantity of charge transferred in one second by a **steady** current of one ampere. Power is the rate at which work is performed and it is measured in watts (W). A Kilowatt (kW), which is equal to one thousand watts, is used to measure the amount of used or available energy. The amount of electrical energy consumed in one hour at the constant rate of one kilowatt is called kilowatt-hour.

Unit of measurement	What does it measure?
(1) _____	the number of electrons passing a given point in a conductor in one second
(2) _____	the quantity of electricity transferred by a steady current of one ampere
(3) _____	the amount of electric energy used
(4) _____	the difference of potential between two points on a conductor
(5) _____	rate at which work is done

Essay topics:

The importance of technical education for the development of society

The importance of technical knowledge in the modern world

The importance of high quality technical education

The scope and future of food processing

Innovative approaches in food processing

Research and innovation as a catalyst for food system transformation

Enhancing automation and technological innovation

Примерные вопросы экзаменационного билета

1. Пересказ профессионально-ориентированного текста на английском языке.
2. Беседа с экзаменатором на английском языке по переведенным текстам.
3. Сообщение на английском языке о научной работе аспиранта (соискателя).

Примерные темы для беседы на кандидатском экзамене (все направления):

1. Область научных интересов аспиранта (соискателя).
2. Научная работа кафедры аспиранта (соискателя).
3. Научная проблематика диссертационного исследования аспиранта (соискателя).

2. Методические материалы, определяющие процедуры оценивания знаний, умений и навыков, и опыта деятельности.

Критерии оценивания сформированности навыков монологического высказывания	
«отлично»	Монологическое высказывание (описание, рассказ) построено логично в соответствии с коммуникативной задачей, сформулированной в задании. Лексические единицы и грамматические структуры используются уместно. Речь понятна: звуки в потоке речи произносятся правильно, соблюдается правильный интонационный рисунок. Объем высказывания - не менее 12-15 фраз-предложений.
«хорошо»	Монологическое высказывание построено логично в соответствии с коммуникативной задачей, сформулированной в задании. Лексические единицы и грамматические структуры используются уместно. Допускаются лексические и грамматические ошибки, которые не препятствуют пониманию речи.
«удовлетворительно»	Монологическое высказывание (описание, рассказ) построено не всегда логично. Допускаются лексические и грамматические ошибки, которые затрудняют понимание речи. Объем высказывания – не менее 6 фраз-предложений.
«неудовлетворительно»	Содержание ответа не соответствует поставленной коммуникативной задаче. Допускаются многочисленные лексические и грамматические ошибки.

Критерии оценки сформированности навыков пересказа иноязычного текста

Оценка	Характеристика перевода текста
«отлично»	Пересказ адекватно отражает содержание текста.
«хорошо»	В пересказе допущены лексико-грамматические ошибки, не искажающие смысл текста.
«удовлетворительно»	Содержание текста передано не полностью.
«неудовлетворительно»	Допущены многочисленные лексические, грамматические, стилистические ошибки.

Критерии оценки знаний при проведении тестирования

Отметка «отлично» выставляется при условии правильного ответа не менее, чем 85% тестовых заданий;

Отметка «хорошо» выставляется при условии правильного ответа не менее, чем 70 % тестовых заданий;

Отметка «удовлетворительно» выставляется при условии правильного ответа не менее 50 %;

Отметка «неудовлетворительно» выставляется при условии правильного ответа менее, чем на 50 % тестовых заданий.

Результаты текущего контроля используются при проведении промежуточной аттестации.

Критерии оценивания эссе

«отлично»	Выполнены все требования к написанию и защите: обозначена проблема и обоснована её актуальность, сделан краткий анализ различных точек зрения на рассматриваемую проблему и логично изложена собственная позиция, сформулированы
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	выводы, тема раскрыта полностью, выдержан объём, соблюдены требования к внешнему оформлению, даны правильные ответы на дополнительные вопросы.
«хорошо»	Основные требования к эссе и его защите выполнены, но при этом допущены недочёты. В частности, имеются неточности в изложении материала; отсутствует логическая последовательность в суждениях; не выдержан объём; имеются упущения в оформлении; на дополнительные вопросы при защите даны неполные ответы.
«удовлетворительно»	Имеются существенные отступления от требований к написанию эссе. В частности, тема освещена лишь частично, допущены фактические ошибки в содержании или при ответе на дополнительные вопросы, отсутствует вывод.
«неудовлетворительно»	Тема эссе не раскрыта, обнаруживается существенное непонимание проблемы.

Критерии оценки знаний на экзамене

Отметка «отлично» выставляется аспиранту, показавшему всесторонние, систематизированные, глубокие знания по экзаменационным вопросам и умение применять их на практике при решении конкретных лингвистических задач.

Отметка «хорошо» выставляется аспиранту, если он хорошо владеет материалом, грамотно и по существу излагает его, умеет применять полученные знания на практике, но допускает в ответе или в решении задач некоторые неточности, которые он в состоянии устранить с помощью дополнительных вопросов преподавателя.

Отметка «удовлетворительно» выставляется обучающемуся, показавшему фрагментарный, разрозненный характер знаний, нарушения логической последовательности в изложении экзаменационного материала, владея при этом его основными понятиями и демонстрируя умение применять теоретические знания для решения стандартной лингвистической задачи, указанной в билете.

Отметка «неудовлетворительно» выставляется в случае, если аспирант не знает большей части основного содержания выносимых на экзамен вопросов и тем дисциплины, допускает грубые ошибки в ходе выполнения лингвистической задачи.

Фонд оценочных средств составлен на основе Федеральных государственных требований к структуре программ подготовки научных и научно-педагогических кадров в аспирантуре и учебного плана МГТУ для направления 4.3.3. Пищевые системы

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