Coffee and tea processing

Level-II

Based on May 2019, Version 2 Occupational standards

Module Title: - Performing tea and coffee blending

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Instruction sheet

This learning guide is developed to provide you the necessary information regarding the following content coverage and topics:

- Confirming available materials and services
- Confirming Services for operation
- Checking equipment
- Setting the process

This guide will also assist you to attain the learning outcomes stated in the cover page. Specifically, upon completion of this learning guide, you will be able to:

- Confirm available materials and services
- Confirm Services for operation
- Check equipment
- Set the process

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1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described below.
3. Read the information written in the “Information Sheets”. Try to understand what are being discussed. Ask your trainer for assistance if you have hard time understanding them.
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Information Sheet 1: Confirming available materials and services

1.1 Material and service

To confirm material/ingredient, apply standard Operating Procedures. When you confirm based on the quality parameters of coffee bean, roasted coffee and ground coffee as well as the tea type and spice use for both tea and coffee blending purpose

Material/ingredient use for prepare coffee Blending process:

- Roasted coffee: -light roasted, medium roasted, dark roasted
- Coffee bean/unroasted from different origin
- Arabica coffee and robusta coffee
- Dry and Wet processed coffee types
- Spice and herbs
- Flavourants Spice

Roasted and unroasted coffee: uncooked and cooked coffee with heat

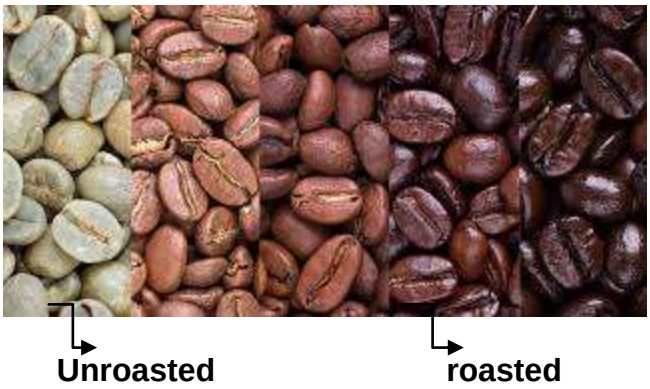

Figure 1. roasted and unroasted coffee

Arabica coffee characteristics:- this types of coffee is very important for blending coffee process because it has different characteristics such as has good flavour, aromatic body, aftertaste, wet processed, very sweetest(contain sugar)

Figure 2: Coffee Arabica

Robusta coffee characteristics: - bitter sweet flavor, acidity without carbon flavor

So, these types of coffee are important when you want to blend with other coffee in order to get the other blended products.

Figure 3: Robusta coffee

Stimulant: caffeine in coffee acts as a mind stimulant to the central nervous system stimulant, depending on level of intake, caffeine can help to improve where Caffeine Come From. Caffeine occurs naturally in several plants and commonly known for its presence in the coffee bean and tea leaves.

Stimulant is used: - to make coffee, the cocoa bean and to make chocolate and the tea

Figure 4: caffeine

Flavorings: - A coffee's flavor describes the overall and combined sensations/perceptions of the coffee's distinctive aromatic and taste characteristics, the fusion of body, acidity, aroma, bitterness, sweetness, and taste.

When these different types of flavoring blend each other its quality characters of coffee increase as you need target products.

Figure 5: Robusta and Arabica coffee

Character of Spices are: strongly flavored, aromatic, pungent and dried vegetable substances. Spice are obtained from different parts plant (seeds, fruits, leaves, roots, rhizomes barks and etc)

Coffee Spice: Cinnamon, nutmeg, lavender, cardamom

Common herbs include basil, oregano, marjoram, parsley, ginger, garlic, rosemary, thyme and dill, paprika (another pepper) turmeric, cumin.

Choose from flavor-enhancing options like cinnamon, nutmeg, lavender, cardamom, and other variety of spices can help you get creative with coffee blending.

Cinnamon:is a spice obtained from the inner bark of several tree species from the genus Cinnamon. Used as Antioxidants, Cut the Risk of Heart Disease, Lowers Blood Sugar Levels.

Figure 6: Cinnamon

Ginger: - is a hot, fragrant spice made from the rhizome of a plant, which may be chopped or powdered for cooking, preserved in syrup, or candied and also for tea and coffee

Figure 7: Ginger

1.2 Material/ingredient use for blending tea process

- Tea types:Black tea,rooibos tea, White tea ,Oolong tea and herbal tea
- Herbs :-Fresh mint leaves.
- Tea Spice: - ginger, cardamom, cinnamon, black pepper, vanilla , nutmeg clove
- Flavourants: - Lemon flavor, smoke, spice, rum, roasted grain.
- Perfumes: - essential oil and compounds.
- Tea leaves: - Camellisensis.

The purpose of blending tea is:

- ✓ increasing the nutritious
- ✓ for sweetness, aroma, appearance
- ✓ sensory of new tea

Camellisensis: scientific name of tea leaf that is an evergreen shrubs or small trees plant family.

Figure 1: Camellisensis

Tea leaves is prepared from Camellia sinensis plant

Figure 2: Tea leave

Lemon flavor: The citric acid content in lemons is remarkably high, aiding in purifying the liver. Consuming **lemon tea** on an empty stomach in the morning assists in getting rid of all the wastes and toxins accumulated in the liver and thereby detoxify the body completely.

Figure 3: Lemon flavor

Vanilla is the primary an organic compound with a molecular formula C8H8O3 that is used more often than natural vanilla extract as a flavoring agent in foods, beverages, and pharmaceuticals.

Figure 4. vanilla

Fresh mint: Take mint and crumble leaves into a container. Store in jar, preferably in a dry dark cabinet shelf. When using for tea, use one teaspoon of dried mint leaves

Figure 5. Fresh mint

Wormwood: Leaves of tree wormwood substituted for (or used to complement) the mint, giving the tea a distinctly bitter flavor

Figure 7: wormwood

1.2 Tea types

Some of the most common tea types include black tea, green tea, white tea, oolong tea, herbal tea. Most tea types are all derived from the *Camellia sinensis* species of plant, whereas some do not actually come from tea leaves at all! There are many varieties of each tea type, and it's common for other flavors to be blended with these varieties.

Fermentation and oxidation: Some types of teas are fermented and oxidized, while others are not. To ferment tea, leaves need to wither or be bruised by hand.

This process allows enzymes on the leaves to interact with the air, oxidize, and change the chemical compound and color of the leaves. The tea flavor can change greatly depending on temperature, humidity, and other air conditions. Heat treatments, like pan-firing or steaming, will stop the oxidation process.

- **Black tea or red tea** is one of the most popular tea flavors and is fully oxidized.

The leaves of the *Camellia sinensis* plant are withered, rolled, oxidized / fermented, and dried or fired to produce a strong, full-bodied flavor.

Figure 1 Black tea

- **Green tea**: -is the most popular tea globally, is unoxidized, and has less caffeine than black tea. *Camellia sinensis* leaves are picked, dried and heat-treated to prevent oxidation. Used in Chine people often pan-fire leaves which create a duller green color.

Flavor Profile of Green Tea: vegetal/grassy, earthy

Figure 2: Green tea

White Tea is Made from the leaves of the *Camellia sinensis* plant. The leaves are simply left to wither and dry on their own. Flavor of white tea a very delicate, naturally sweet, well-rounded flavor. Characteristics of white tea are: It has very little caffeine process, floral, delicate, and fruity

Figure 3: White Tea

Herbal tea:-doesn't come from tea leave. It is made from dried herbs, fruits, and flowers, which can create a wide range of delicate flavors. These tea types are caffeine free which is for customers with dietary restrictions. Characters of herbal tea flavor are delicate, fruity/herbaceous, and sweet. Common ingredients for herbal are: chamomile, ginger, and dried fruits.

Fig 4: Herbal tea

Oolong tea: -come from the Camellia sinensis plant which produces during fermentation by oxidation process due to oxygen addition. They are heat-treated to stop the oxidation, which can vary based on region and create different flavors.

The above tea and coffee ingredients are important for blending purpose when they are blended according to recipe or ratio it increases the nutritional value and to get the healthfully and medicine.

In order to blend coffee and tea follow steps :-

- follow the instruction for blending process
- clean and prepare appropriate tools and equipment use for blending
- Identify Origin of coffee comes from
- Take the coffee bean or roasted coffee
- Identify the blending ratio of the coffee and tea product
- Check the moisture content appearance (, flavor, colour, aroma, taste)
- Identify the nutritional value added
- weighing the ingredient accurately and ready for operation
- record the measurement
- blending

Self check: 1	Confirming available materials and services

Name…… ID…… Date…….

Directions: Answer all the questions listed below. Examples may be necessary to aid some explanations/answers.

I. Answer the following questions and explain if necessary

1. Write the ingredient use or coffee blending process
2. What is the use of caffeine in coffee
3. Write important spice use for coffee blending process
4. What is the difference between Robusta and Arabica coffee
5. Define the word cinnamon and write use of it

II. Choose the following according to the question

1. Which of the following tea type is sense as earthy flavor?

A. rooibos tea B. Oolong tea C. Black tea D. White tea

2. Which types of tea is delicious or fruity flavor

A. herbal tea B. Black tea C. Oolong tea D rooibos tea

3. Which of the following spices is high remarkable and aiding in purifying the liver.

A. Lemon flavor B. Perfumes C. Vanilla D. Freshment

Note: Satisfactory rating > 10points Unsatisfactory - below 8 points

You can ask you teacher for the copy of the correct answers

Information sheet 2:- service operation

2.1 service operation

Service operation is perform the activities and processes required to deliver and manage services at agreed.

Service for operation:

- Power
- Steam
- Water
- gas and
- compressor air

Power is a rate of Electricity generate from sources of primary energy.

In coffee processing industry the machine like roaster, grinder, harvesting machine and blending machine can consum high electric power. So power is service for coffee blending operation.

Steam is produced in large tube and chest heat exchangers which are called water tube boilers if the water is in the tubes. A method of steaming, roasting and blending Robusta coffee beans is disclosed. The green Robusta beans are first contacted with steam under pressure in a vessel.

Next, the steamed Robusta beans may be either dried and subsequently roasted or roasted directly. Roasting in a bubbling bed or with steam under pressure is preferred so that heavy, roasted burnt notes are developed. The roasted Robusta coffee may then be blended with at least one type of roasted Arabica coffee

Water: is use for cleaning the internal and external surface of machine during the process. A special focus of carried on the corrosivity and scaling potential of the water to maintain distribution piping in good shape.

Gas: Nitrogen Gas is use in the coffee Process packaging. Gaseous **nitrogen** is used in a variety of systems and processes in the food manufacturing and packaging industries

Freshly roasted coffee beans give off twice their volume in **carbon dioxide**. Therefore, a roaster can do one of two things; 1. Pack the coffee in a bag totally unprotected from the environment (oxygen and moisture are coffee killers), 2. Let the coffee de-gas for a few days (go stale)

Compressed air is an important medium for transfer of energy in coffee processes, and is used for power coffee machine like roaster, grinder and others, as well as to atomize paint, to operate air cylinders for automation, and can also be used to propel vehicle.

2.1.1 Process operation and monitoring

Process operation/process manufacturing/process production is the mass production method of producing products in a continuous flow. Process operation is planning, preparing, executing, and assessing the product.

Process monitoring is the process of the manipulating equipment/machine using by hands and automatic control.

Example Buhler coffee processing machine is used to customize small, medium or large-scale operations of coffee blends which is designed to give better automatic control on coffee processing technology and also monitor waste and byproduct with controllable time and temperature parameter. Room operator is monitoring the efficiency and effectiveness of equipment/machine in bluck blending and packaging operation.

After they fulfill these criteria, blend in the appropriate tools and equipment in safe standard operation procedure by avoiding the hazards. Standard Operating Procedures (SOP) is a process document that describes SOPs involves the purpose of the operation. The equipment and materials of the procedure is to guarantee

the operator can check that it is safe to proceed, high quality coffee beans.

Tea and coffee processing-machine

Tea, coffee and processing machine operators operate and monitor machines to blend and prepare tea leaves and coffee beans. **Machine-operator**, tea-leaf processing and Machine-operator, coffee bean processing are operate properly

Fig 1. Buhler coffee roaster

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Self check 2: Confirming Services for operation

Name…… ID…… Date…….

Directions:

I. Answer all the questions listed below. Examples may be necessary to aid

1. How to confirm the ingredient and equipment for blending operation

2. What is standard operating procedure (sop?)

3. What criteria is required in order to confirm the equipment and ingredient for operation

II.Choose the following

1. When you confirm coffee blending ingredient what you monitor

A. quality of coffee bean B. time of roasting C .compounds of roasted coffee

2. For what reason you blend coffee or tea with other products or spices?

A. to increase flavor B. to get medicine C. to add nutrional value D .all

Note: Satisfactory rating > 10points Unsatisfactory - below 8 points

You can ask you teacher for the copy of the correct answers

Information sheet 3: Checking equipment

3.1 Check equipment

- ✓Perform hand hygiene before equipment preparation
- ✓Set up in a ready available manner and easy to use
- ✓Maintenance adequate number of safety device use for checking equipment healthy
- ✓Well equipped examination room is preferable
- ✓Checking the functionality, efficiency and effectiveness of equipment
- ✓Adequate highting, sound proof
- ✓Make sure the room warm enough
- ✓Special table to assume positions.

Equipment /machine used for coffee and tea blending process are:

- Coffee blending machine
- Tea blending machine
- Coffee sealing machine
- Coffee moisture meter
- Tea moisture meter

Coffee Blending Machine:-These blending machines come in ball shape design which ensures an effective amalgamation of coffee powder and roasted coffee.

The machine has good Power efficiency, Corrosion resistant, durable

Figure 1 Coffee Blending Machine

Tea blending machine: - used to blend the tea product as uniformly mixed

Figure 2: Tea blending machine

Coffee sealing machine: used to seal the finished coffee products that ready for delivering the blended coffee products manual sealing is sealing by using man power without programic logic computer but automatic is use the programic logic computer.

a)

b)

Figure coffee sealing machine

Coffee Moisture analyzer: measure the moisture content of the coffee bean for confirming the coffee for operation/process according to the standards from the range 10-12%

Figure 4: coffee Moisture meter(analyzer)

Tea moisture meter: is used to measure the moisture content of tea or tea leaves.

Figure 5:Tea moisture meter

3.1.2. Materials handling equipment

Material handling is the movement, protection, storage and control of materials and products throughout manufacturing, warehousing, distribution, consumption and disposal. There are three basic stages of handling. Such as: material collection, manufacturing, product distribution. In tea and coffee blending process apply handling in coffee plant industry. Use the following equipment for handling in coffee and tea processing industry.

- Fork lift/vacuum lift

- Conveyor, hopper, bag, crates,
- Bag/Container Unloading (super sacks/bulk bags or drums)
- Silo/Hopper Unloading
- Screw Conveyors
- Vehicles and container Filling/filler

Tea arrives on pallets in either bags or crates is stored in warehouses to wait blending and packaging. These bags and crates are moved either by hand or by material-handling devices such as fork-lifts or vacuum lifts. The blended tea is conveyed to hoppers for packaging in which operations can vary from highly automated equipment to labour-intensive hand packaging operations.

Assigning two workers to a heavy lifting task can help reduce the chances of a serious back injury. Modifying work stations to be more ergonomically correct and/or automating equipment on packaging lines can reduce worker exposure to repetitive tasks. Most warehouse operations require the use of fork-lift trucks. Coffee handling environment requires focus on safety, energy consumption and reliability.

Your material handling may include silo/hopper/container/bag unloading, process links (conveying between processes or from process to packaging) and container filling (super sack/bulk bag, bag, box or tote filling).

Bag/Container Unloading: Raw ingredients can arrive in a variety of bulk containers super sacks/bulk bags or drums, boxes needs to be transported to the process from these containers. Material handling equipment to empty and fill various containers and conveying and controlled feed for conveying whole green coffee beans and roasted coffee beans and ground coffee from the containers to the roasting process.

Silo/Hopper Unloading: slide gate or butterfly valve with a volumetric feed loss in weight, load cell and Program Logic Control (PLC) weight controlled feed using a bin activator. Bin activators use the angle of repose of the material and with vibration assistance to control product flow in an accurate and controlled feed to the next part of the process. Screw Conveyors (FSC) provides dust free, low energy, low maintenance

and low cost conveying. Container Filling is a complete packaging after roasting to move bulk volumes of coffee and require a filling system.

a) Coffee silo **b) 1:forklift**

Figure 6.material handling

Self check 3: Checking confirming equipment

Name…… ID…… Date…….

Directions: I. Answer all the questions listed below. Examples may be necessary to aid.

1. How to check the equipment performance for coffee and tea operation

2. What is the use of coffee blending machine in coffee and tea blending process

3. Write material handling equipment for coffee

II. Choose the following question accordingly

1. To confirm the equipment /machine for coffee and tea blending process, what you have to check

A. Hand Hygiene B. Efficiency C .Well Equipped Examination D.all

2. Which of the following material handling equipment

A. Fork lift B. bag unloading container C. silo D. All

3.to check the range of 10-12%of coffee moisture content what equipment you use

A. Moisture content B. blending machine C. Sealer machine D. all

Note: Satisfactory rating > 10points Unsatisfactory - below 8 points

You can ask you teacher for the copy of the correct answers

Information sheet 4: Setting the process

4.1 Setting the process

Setting the process is an activity which comes before starting the exact processes of blending and packing coffee and tea. It shows the activities to be follow over all the processes. Process specifications, procedures and operating parameters developed by the manufacture or experts for coffee and tea blending and packaging. Process specifications, procedures and operating parameters are used to set the process easily to be done.

4.2. **Purposes**

It is a procedure used a guide to the operator

- To use the operating time effectively
- No missing operating parameters and each activities in the processing
  - ✓ Sample testing
  - ✓ Measurement taking
  - ✓ Identifying the variation during processing and taking a corrective action based the operating specification
- Keeping records

Monitor coffee and tea quality factors before blending:

- Monitor quality of bean and tea leave
- Roasting conditions of coffee and dry condition of tea
- Time since roasted and dried
- Types of water used for blending
- Identify the compounds of roasted coffee impressions on coffee aroma and taste

Self check: 4	Setting the process

Name…… ID…… Date…….

Directions: Answer all the questions listed below. Examples may be necessary to aid

I. Choose the following question accordingly

1. To set the coffee blending process what you have to do/?

A. sampling the ingredient B. cleaning equipment/machine C. to know for what purpose you blending D. all

2. Which of the following is not coffee packaging material?

A. aluminum material B. paper C. carton D. poly ethene E. none

3. When you pack coffee products what you have to do

A. the beans degas gases to left the coffee beans

B. Resist pressure

C. pack the bean in pack lets the gas out easily

D. all

Note: Satisfactory rating > 10points Unsatisfactory - below 8 points

You can ask you teacher for the copy of the correct answers

LG#32	**LO2. Operate and monitor coffee and tea blending process and tea packing process**

Instruction sheet

This learning guide is developed to provide you the necessary information regarding the following content coverage and topics:

- Starting blending process
- Packing tea blend
- Transferring tea and coffee to blending drum and blended
- Producing blended tea and coffee
- Monitoring control points
- Monitoring operating equipment
- Identifying, rectifying and reporting out-of-specification products, process and equipment performance
- Transferring blended tea and coffee to storage

This guide will also assist you to attain the learning outcomes stated in the cover page. Specifically, upon completion of this learning guide, you will be able to:

- Start blending process
- Pack tea blend
- Transfer tea and coffee to blending drum and blended
- Produce blended tea and coffee
- Monitor control points
- Monitor operating equipment
- Identify, rectify and report out-of-specification products, process and equipment performance
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Information sheet 1:Starting blending process

1.1 blending process

Blending process is the process of mixing ingredient with other in order to get nutritional value of the blended product.

To start the blending process allocates all the necessary ingredient and machine for blending purpose according to the recipe instruction. Select the suitable blending ratio based on the function and customer interest for consumption and base standard, specification.

Example in order to blend the light roasted coffee with dark roasted coffee prepare the light roasted and dark roasted coffee then blend by taking the ratio of them in order to increase the nutrional value of the blended like sweetness, bitterness, flavour, aroma, and for other healthy purpose and also use the appropriate machine and monitor the correctness of blending machine, efficiency and properly functional for blending purpose.

Before blending the ingredient take the following operation for blending process:

- blending instruction or recipe procedure
- batch number
- Ingredients (coffee, tea, spice)
- Identify the origin of coffee and tea types where come from.
- Identify the types of ingredient used for both coffee and tea blending process
- Equipment/machine for blending
- Weighing the ingredient precisely and accurately using the recipe instruction
- Check the moisture content, aroma character, nutrious type, side effect, appearance, sensory etc.

1.1.1 Coffee blending

To blend, identify coffee type may robusta or not to robusta. Blends of coffee made from Robusta are a bitter of because it provides bitter, bitterness and cream. Many roasters disagree with this, and point out those most dry-processed coffees will provide all one needs in terms of these qualities.

To set coffee blending process**:**

- Apply standard operation procedure,
- operation specification,
- operation parameters like temperature and time,
- Types of coffee.

Figure 1: Coffee blending machine

1.1.2 Tea blending

Tea blending is the blending of different teas together to produce a final product

When different area of black tea is blended to make most bags. The aim of blending is to create a well-balanced flavour using different origins and characters of tea. There are various teas which have additives or different processing than "pure" varieties.

Tea is able to easily receive any aroma, which may cause problems in processing, transportation or storage of tea, but can be also advantageously used to prepare scented teas. Tea can be flavored in large blending drums with perfumes, Flavourants, or essential oils added. Although blending and scenting teas can add a nutritional value to tea, the process may sometimes be used to cover and obscure the quality of sub-standard teas.

Figure 2: blending tea

Self check 1: Starting blending process

Name…… ID…… Date…….

Directions:

Answer all the questions listed below. Examples may be necessary to aid

1. How to start blending coffee and tea process
2. How to select the blending ingredient/ material for blending
3. Why you blend the coffee and tea?
4. What is blending process?

Note: Satisfactory rating > 10points Unsatisfactory - below 8 points

You can ask you teacher for the copy of the correct answers

Information sheet 2: Producing blended tea and coffee

4.1 Producing blended tea and coffee

To produce the blended tea and coffee:

- take the types of tea products (white tea, black tea, oolong tea)
- spice (cinnamon, ginger, lemon flavor, rosemary etc…) and
- tea products from the different variety
- take the variety of coffee bean(Arabica and coffee robusta)
- types of roasted coffee(in light, medium, dark)

By using the above ingredients you can produce the blended coffee and blended tea products in order to add the value on the first products for the purpose of increasing the nutritional value and for the healthy purpose may that is used as medicinal purpose like antioxidant and reduce the heart disease for human. So the above blended tea and coffee is produced by blending process for increasing the nutritional value of the product

4.1.1 Manufacturing process of black tea has the following steps

Step1: Plucking is gathering the leaves and buds after maturation and sorting is process of grading according to size, density and colour by mechanical process.

Figure 1: sorting

2. Withering,

After plucking all tea leaves gathered at one place for withering process. Moisture content comes down 50% then sent to the withering room dried for 8 to 12 hours by blowing dry warm air

Fig 2: withering

3. Rolling:-is done with the help of press spindles or roller where the green leaves are open and the released ell fluid reacts with the oxygen in the air. This process takes 30

minutes each and is repeated 3 times. The damp and lumpy darkened leaves are scattered with the help of a shaking or sieving machine.

Figure 3: Roller

4. Fermentation:

The oxidation and fermentation process already starts with the rolling .the leaves are spreads out on large boards 10-15 cm thick layers in special room with a room temperature of 40^0 C for a hours additionally sprinkled with water.till the leave takes red brown colour and starts to unfold its unique aroma

Figure 4: black tea Fermentor

Firing: the leaves are transported through dryer on metal conveyor belts .This tea is dried for 20 minute with hot air 80-90^{0}C which makes the cell fluids stick to the leave and gives dark brown to black colour .Final humidity 5-6%then packed and sent for sale.

Figure a) 5: Drier/ b) black tea

4.1.2.Green tea manufacturing

1. Plucking

The green tea leaves are mainly plucked by human power which they collecting the leaves. Then weighed the collected buds before they transported to the factory so weigh the supplied amount of the before the actual tea production is started.

2. Withering

Good quality is spread on laths which covered with nylon nets and placed in sun to wither. The withering time is depends on the weather and humidity contents of the leaves between 14-18 hours.hug ventilators blow air from below through the leave layers. 30%of the still thick immaleable leaf humidity is reduced during the withering process.

3.Heating: Now, the leaves are heated for 10 minutes with 280^{0}C in in cast-iron pans.The leaves are pressed against the hot surfaces and turned on some time automatic drum machine are used in this process. Due to the impacts of the heat, the

plant own enzymes are converted.and oxidation can no longer take place and and the green colour and rather fresh or herbtaste are presserved.

4.Rolling:in rolling machine the tea leaves are put in between two rotating metal plates.This process takes approximately 15 minutes.

5.Drying :the tea leaves are put into special dryers.Here there are two turning discs which are heated to 160^0C

From the above tea products blend the products that you required. Example the special kinds of tea blends are:-

By using origin of tea, blending. Tea originated from Assam Ceylon and Kenya. Is one of the most popular blended teas. Black tea blend usually described as fully bodied robusta and rich blended to go well. With milk cream and sugar

General Tea manufacturing process

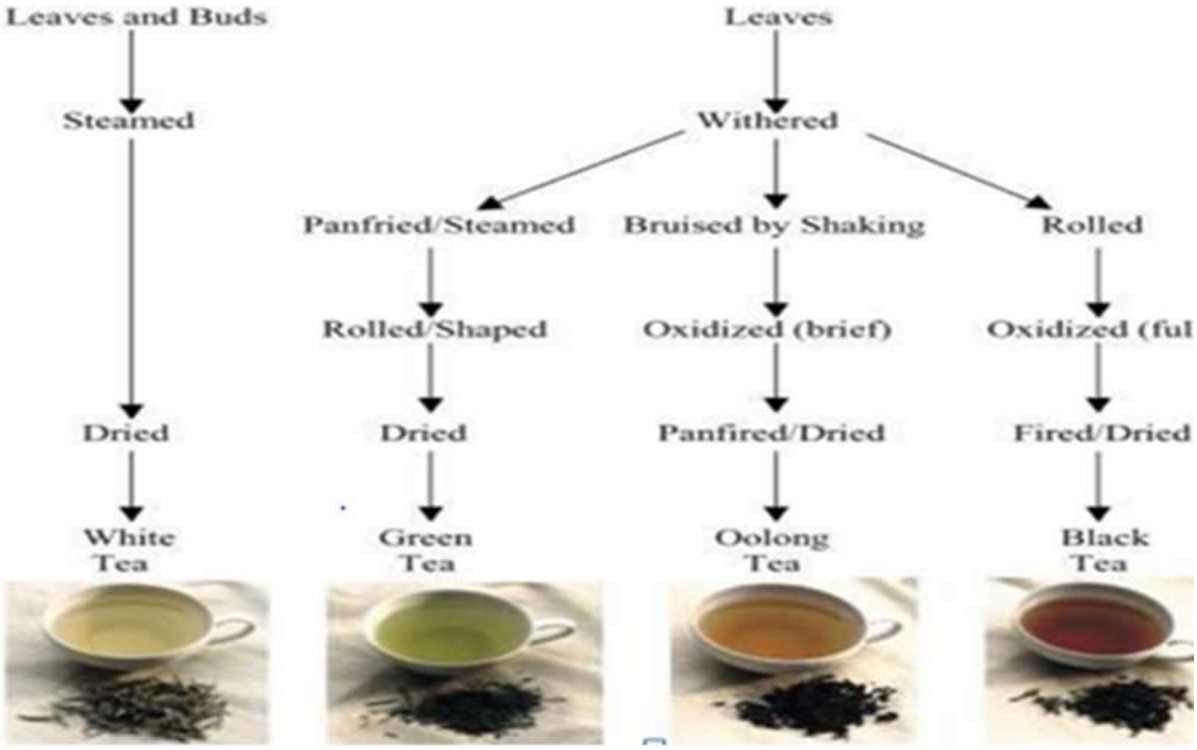

Figure 1: Flow chart tea

Finally after these types of the product are produced to carry out the blending process with the each other to get the modified products. But at the same process other is produced. Example sees this flow chart

Self check 2: Producing blended tea and coffee

Direction

I. Answer the following question and explain if necessary

Name…… ID…… Date…….

1. How to produce the blended tea and coffee product
2. When you blend Arabica and robusta coffee what you feel sensory
3. Write manufacturing process of black tea
4. Which type of tea manufacture is not carry out fermentation
5. When you blend coffee and tea product what you consider before.

Note: Satisfactory rating > 10points Unsatisfactory - below 8 points

You can ask you teacher for the copy of the correct answers

Information sheet 3: Transferring tea and coffee to blending drum and blended

3.1. Transferring tea and coffee

According to the mass transfer, tea and coffee are transferred into the blending drum machine and blended according to the product specification and to meets product standard operating procedure. Mixing is a unit operation that involves manipulation of a tea and coffee products through the tube. Mixing is performed to allow heat and/or mass transfer to occur between one.

There are many types of blending machine:

- ✓ vertical blending machine,
- ✓ tower blending machine,
- ✓ drum blending machine
- ✓ Ribbon blending machine are Rotating blending drum dry tea ,spices and herbs mixing machine.

Working principle of blending machine:

When the mixer is running, the stirring blade also rotates at the same time. The rotating drum disordered the material inside and uniformly blends, and the high-speed rotating stirring blade breaks the agglomerated material, so that the material quickly roll and mix evenly in the cylinder. Rotary mixing tank efficiently use to blend ingredient uniformly by stirring to achieve better mixing degree of ingredients with added amount.

Advantage of drum blending machine

- ✓ the machine adopts mechanical seal, the powder will not leak,
- ✓ the bearing has long service life
- ✓ the machine has high mixing efficiency,
- ✓ high work efficiency, low labor intensity and convenient operation

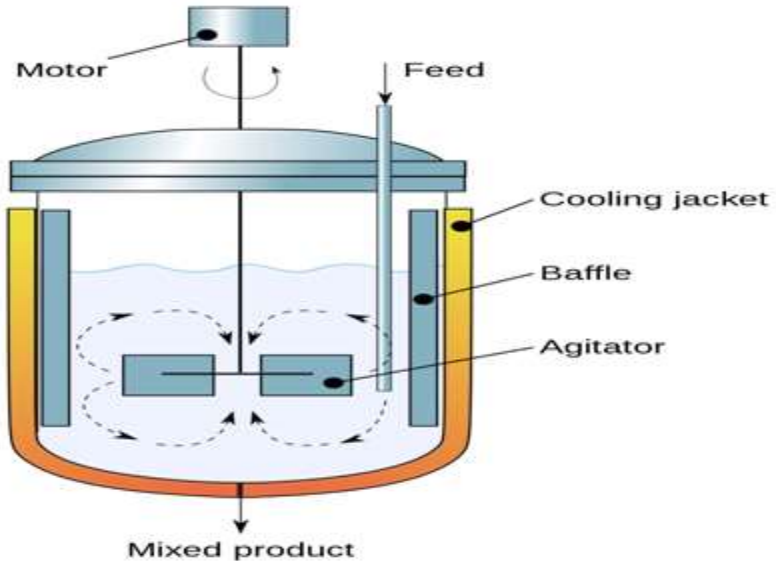

Figure: 2 blending drum machine

Self check 3: Transferring tea and coffee to blending drum and blended

Name…… ID…… Date…….

Directions: Answer all the questions listed below. Examples may be necessary to aid

1. Write types of blending machine
2. What is the use of drum blending machine
3. How the blended coffee and tea transferred through drum tube machine
4. Write advantage of drum blending machine

Note: Satisfactory rating > 10points Unsatisfactory - below 8 points

You can ask you teacher for the copy of the correct answers

Information sheet 4: Packing tea blend

4.1 Packing tea blend

Packaging tea is the process of enclosing roasted coffee (whole bean or ground) to protect it from sunlight, moisture, and oxygen, with the goal of preserving the coffee's taste and aromatic characteristics, and also to contain the coffee in controlled portions for ease of sale

Packaging tea is filling the processed tea into the tea bags or carton round or square which is hermitically sealed and packed into cartons.

A tea bag is a small porous sealed bag or packet typically containing tea leaves , which is immersed in water to steep and make an infusion

4.1.1 Coffee packing process

Coffee packaging material is made of aluminum, paper, carton, bags, plastic, sealer jar, polyethene, and other multi-laminates. So use this material for tea and coffee packing. Because coffee is sensitive to external factors such as oxygen, moisture, light, wet and Ultra Violate (UV).Packaging must have barriers characteristics which usually laminate

Packaging coffee is the process of enclosing roasted coffee (whole bean or ground) to protect it from sunlight, moisture, and oxygen, with the goal of preserving the coffee's taste and aromatic characteristics, and also to contain the coffee in controlled portions for ease of sale.

Valve-Sealed Bags and Vacuum-Sealed Bags:

Whole bean coffee or freshly-ground coffee is typically packaged in valve-sealed bags or vacuum-sealed bags, instant coffee is often packaged in vacuumized sealed jars, cans, or other airtight packaging.

Vacuum-sealed bags are generally considered an inferior method of shipping freshly-roasted coffee beans because carbon dioxide and other gases emit from coffee beans for several days after roasting (this is called degassing) and if these gases are not allowed to escape they will harm the delicate flavors of the coffee.

Neither is it good to leave the coffee unpackaged after roasting because it will cause the coffee flavors to degrade due to exposure to moisture, sunlight, and oxygen. Thus a valve-sealed bag, which allows gases to escape, is the preferred method of shipping freshly-roasted coffee.

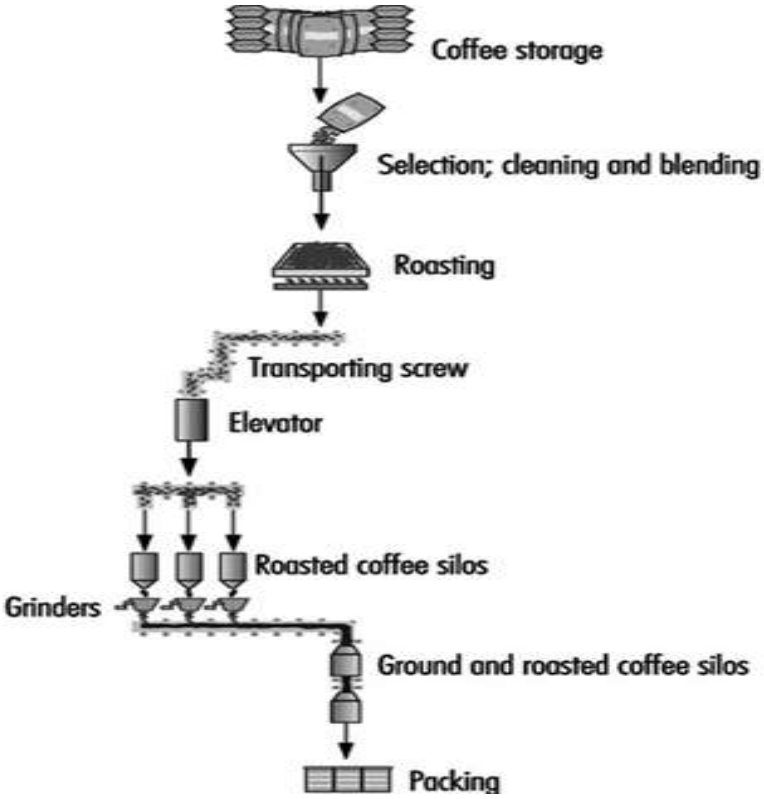

Fig packing process

4.1.2 To pack Finished Products of coffee.

During packaging:-

- ✓ Letting the gas out/scaping from the packaging material
- ✓ Degas (remove)the coffee bean/leave the bean
- ✓ Resist the pressure from packaging machine
- ✓ Pack the bean by using vaccumized sealed jar
- ✓ Avoid anything else come in!

Then pack after the gas letting out the packaging material like bag,carton and other container for coffee packing as the following picture.

4.1.3 Coffee and tea packaging material

Most coffee packaging is made of aluminum, paper, polyethene, valve-sealed bags or vacuum-sealed bags, vacuumized sealed jars, cans, polyethene, plastic and other multi-laminates. As coffee is sensitive to external factors such as oxygen, moisture, and UV, packaging must have barriers, which usually are laminates.

So coffee products properly packed in a container (bag) and have to fold the top opening and clasp the black tape again.

Figure 4: coffee bags

4.1.4 Tea packing material

Packaging material is provides protection, tampering resistance, and special physical, chemical, or biological needs. It may bear a nutrition facts label and other information about food being offered for sale.

Tea bags are commonly made of filter paper or food-grade plastic, or silk cotton or silk. The tea bag performs the same function as a tea infuser. Tea bags can be used multiple times until there is no extraction left

Physical protection: The food enclosed in the package require protection from other things, shock, vibration, compression, temperature, bacteria, etc

Barrier protection: A barrier from oxygen, water vapor, dust, etc …is required. Permeation is a critical factor in design. Some packages contain desiccants or oxygen absorbers to help extend shelf life. Modified atmospheres or controlled atmospheres are also maintained in some food packages. Keeping the contents clean, fresh, and safe for the intended shelf life is a primary function

Key: Tea packaging material: Tea bag, Carton, Nylon, Plastic, bag

Figure 2.tea bags

Self check 4: Packing tea blend

Name…… ID…… Date…….

Directions: Answer all the questions listed below. Examples may be necessary to aid

1. Write coffee packaging material
2. What are external factors of coffee packaging?
3. To pack finished products what you have to do
4. Write the packaging material for tea process
5. Why metal and glass packaging material is not properly use for coffee and tea packing

Note: Satisfactory rating > 10points Unsatisfactory - below 8 points

You can ask you teacher for the copy of the correct answers

Information sheet 5:Monitoring control points

5.1 Monitoring control points

Monitoring control point is the point or a critical point which is controlled when the hazard happen at a point in a process must be monitored by using the hazard analysis critical control point **(haccp)**

5.1.1 Food safety (critical)

Food safety is used as a scientific discipline describing handling, preparation, and storage of food in ways that prevent food-borne illness.

Food storage allows food to be consumed for some time after harvest. In considering industry to market practices, food safety considerations include the origins of coffee and tea including the practices relating to coffee and tea labeling, food hygiene, food additives and pesticide residues.

According to WHO there are five key principles of food hygiene. Such as:

- ✓ Prevent contaminating food with pathogens spreading from people, pets, and pests.
- ✓ Separate raw and cooked foods to prevent contaminating the cooked foods.
- ✓ Cook foods for the appropriate length of time and at the appropriate temperature to kill pathogens.
- ✓ Store food at the proper temperature.
- ✓ Use safe water and safe raw materials.

5.1.2 Quality and regulatory control point

Coffee is an important export product of (Ethiopia). Producers are challenged by the implementation of regulatory limits for mycotoxin. Ecuador has four coffee production areas and the potential for mycotoxin contamination varies due to different environmental conditions and cultural differences in harvesting, storage, processing and commercialization.

The major contributors to contamination are the lack of selection during harvesting, delays in drying or rewetting, the lack of proper drying and storage conditions, the mixing of products with different levels of moisture, and the potential for cross-contamination.

An integrated mycotoxin management system using the Hazard Analysis Critical Control Point Systems (HACCP) principles was developed to prevent mycotoxin contamination at each stage of production. Critical control points were developed based on the resources available at the different stages of the production chain.

5.1.3 inspections points

Inspection is the act of looking at tea and coffee product carefully to check its quality or condition of processing carry out/make an inspection normally you will carry out an inspection of the goods as soon as possible after delivery.

The purpose of an inspection

- ✓ To inspect carefully examine.
- ✓ To meet customer requirements, wants, and needs.
- ✓ to prevent defective product flowing down the successive operations
- ✓ Prevent loss to the company.
- ✓ Many characteristics cannot be inspected at the final stage of production.
- ✓ To establish conformity of products

A quality control and monitoring system for fortified coffee and tea.

Tea manufacture is essentially a batch process; the process steps relating to the primary production and processing of black, green and white tea and principles of the HACCP system each process step has been considered.

Potential food safety hazards resulting from primary production and processing of tea is identified. Such as:

- Chemical contamination (chemical hazards)
- Foreign matter (physical hazards)
- Microbiological contamination(biological hazards)

Chemical contamination

HACCP principles should be applied by local processors to each specific processing operation separately in order to conduct a hazard analysis and to control identified hazards. The critical limits for chemical contamination are those given in EU and national legislation.

Chemical contamination: can arise because of environmental pollution, inappropriate use of agrochemicals, adulteration, lubricants from tea and coffee processing machinery, contamination during transport or storage.

Foreign matter is an extraneous material naturally associated with tea and coffee

Foreign materials are: stones, glass, metal, scale, insect fragments, jewellery, packaging materials etc.

5.1.4 Reduce or eliminate potential food safety hazards:-

Primary producers should monitor:

- ✓ To keep clean and, to disinfect, in an appropriate manner, facilities, equipment, containers, crates, vehicles and vessels;
- ✓ To ensure, where necessary, hygienic production, transport and storage conditions for, and the cleanliness of, plant products;
- ✓ To use potable water, or clean water, to prevent contamination;
- ✓ To ensure that staff handling foodstuffs are in good health and undergo training on health risks.

Self check 5: Monitoring control points

Direction: Answer the following question and explain if necessary

Name…… ID…… Date…….

1. Define food safety and food quality
2. Write the principle of food hygiene
3. Define the following words
   a. Control point
   b. Critical control point
   c. Hazard
   d. Hygiene
4. Write type of hazards and explain tem

II .Choose the following according to the given question

1. Which of the following is the purpose of inspection?

   A. to meets customer requirement B. to prevent defective from product

   C. to establish conformity of products D. all

2. Which of the following is the primary objective of producers?

   A. to keep clean the machine and working area

   B. To ensure the hygienic production

   C. to give training on healthy risk

   D. all

Note: Satisfactory rating > 10points Unsatisfactory - below 8 points

You can ask you teacher for the copy of the correct answers

Information sheet 6: Monitoring operating equipment

6.1 Monitoring operating equipment

Monitoring is the systematic process of collecting, analyzing and manipulating of machine like blending machine packing machine by using the using information on machine like time and temperature controller to achieve a programme's progress toward reaching.

Reasons of coffee machine monitoring:

- Coffee bean suppliers want to lock customers into their brands. So by giving away Simple Pack free of charge that monitors the consumption, they can deliver the right amount at the right time
- The office manager can monitor real coffee consumption so that coffee supplies are not (e.g. by cleaning services or even staff!)
- The duration of vibrations can distinguish between coffee preparation or the cleaning program so the office manager can be notified if the machine is not maintained properly
- There is a button that can display the Coffee bean brand and this can serve as a re-ordering button.

There are several types of monitoring they include: process monitoring, technical monitoring. Measuring machinery health by performance monitoring has the potential to give warning of a developing failure through the changing levels of a suitable parameter (like accuracy, precise, efficiency, effectiveness being measured, there by indicating a change in condition of a component, machine or system.

Coffee Machine performance monitoring includes: healthy monitoring, Corrosion, Efficiency, effectiveness, functionality and controller like on, off, dangers**.**Most machine

and process characteristics which affect quality, capacity, safety, risk and cost can evaluate throughout an asset's lifetime.Functions of monitoring and controlling the process for the safety and product specification.

Figure) 1: Coffee blending machine

6.2 Confirming equipment status

Confirming is allowing the functionality of the equipment status as efficiently, effectively, accurately work and also bought according to the specification standards based procedure for coffee and tea process.

To give approval or ratify/ confirm the equipment based on:-

- ✓ checking hygiene and sanitation standards to meet equipment
- ✓ Check Safe sanitation systems to meet the equipment status
- ✓ Regular health checks.
- ✓ washing surface of equipment for smoothness
- ✓ Keep all safety guards are in place
- ✓ Operate equipment

Self check 6: Monitoring operating equipment

Name…… ID…… Date…….

Direction Answer the following question and explain if necessary

1. What do you mean by monitoring?
2. What is monitoring and types of monitoring?
3. What is the role of monitoring?
4. What are the steps of monitoring?
5. How to monitor coffee and tea performance?

Note: Satisfactory rating > 10points Unsatisfactory - below 8 points

You can ask you teacher for the copy of the correct answers

Information sheet 7: Identifying, rectifying and reporting out-of-specification products, process and equipment performance

7.1 Identifying and rectifying of specification products and process

A. Minimum standards for exportable coffee.

- For Arabica, has in excess of 86 defects per 300 g sample or Robusta, has in excess of 150 defects per 300 g (Vietnam, Indonesia, or equivalent)
- For both Arabica and Robusta, has moisture content below 8 percent or in excess of 12.5 percent, measured using the ISO 6673 method.
- Where moisture percentages below 12.5 percent are currently being achieved, members shall Endeavour to ensure that, these are maintained or decreased.
- Exceptions to the 12.5 percent maximum moisture content shall be permitted for specialty coffees that traditionally have high moisture content, e.g. Indian Monsooned coffees. Such coffees shall be clearly identified by a specific grade nomenclature.

B. Certificates of Origin:

✓ Exporting Members shall only issue ICO (international certification organization) Certificates of origin for consignments of coffee that meet both the minimum defect and moisture standards.

C.Cooperation by importing Members in verifying compliance:-

- ✓ Importing Members shall make their best endeavours to support the objectives of the Programme.
- ✓ Measures to be taken in cases of non-compliance

- ✓If coffee failing to comply with the above standards is identified through the normal course of trade, importing Members shall Endeavour to notify the ICO of such shipments, because of defects

D.Measures for controlling the application of the standards in exporting Member countries

- ✓Each exporting Member shall develop and implement national measures which ensure that no exports of green coffee fail to meet exportable standards.
- ✓Exporting Members shall also Endeavour to ensure that sub-standard green coffee is not included in the manufacture of processed coffee (roasted and soluble) that is exported.

E.Labeling:

- ✓ All coffee supplied for export shall be labeled to indicate that it is coffee the International Coffee Agreement Coffee by-products shall be labeled.

F. Minimum Standards:

The minimum standards for delivery under the Coffee "C" Futures Contract are: the coffee sound in the cup; good roasting quality; bean size that (50%) of the coffee sampled screens fifteen (15) or larger, and no more than five percent (5%) of the coffee sampled screens below fourteen (14).

7.2 Identifying and rectifying the specification of equipment performance used to

- ✓ To know the status or operating condition of the equipments
- ✓ Increase the efficiency of the equipment
- ✓ Maintain the quality of processing

Self check: 7	Identifying, rectifying and reporting out-of-specification products, process and equipment performance

Name…… ID…… Date…….

Direction

I. Answer the following question and explain if necessary

1. How to identify performance of coffee and tea product specification
2. Write the standards of exported coffee

Note: Satisfactory rating > 10points Unsatisfactory - below 8 points

You can ask you teacher for the copy of the correct answers

Information sheet 8: Transferring blended tea and coffee to storage

8.1Transferring blended tea and coffee to storage

The purpose of transferring the blended coffee along the convey the blended coffee and tea to storage silo/hopper is for maturation stage because roasted coffee beans should be kept away from heat until they are ground and ready to be brewed. If you grind your coffee beans just before you use it, you will preserve more of its delightful flavour. Check out the home coffee grinders you have available. The key factors to watch/save for coffee storage are:

- Time
- Temperature
- light
- moisture and
- containers

Time: Immediately after roasting, coffee begins to lose its freshness, so it is far better to purchase it in smaller quantities. Ideally, you should aim to buy only the amount of freshly roasted beans that you can consume within 2-3 weeks. Coffee beans purchased in the supermarket may have been sitting on the shelf for a long time since they were roasted. If you value freshness, then you are best to purchase your beans from a smaller roaster.

Temperature:-Coffee beans should be stored at room temperature, in a cool dry place. It is better to store coffee in the refrigerator. However, a fridge is actually not at all for coffee storage. Moving beans from a refrigerated setting to room temperature and back frequently can introduce moisture. In addition, chilling coffee beans can cause the oils that carry the flavour to solidify. This negatively affects extraction when it comes time to brew. Hot temperatures are also bad for coffee storage. Avoid storing your coffee on a high shelf where the heat may rise, above a cook top or next to a stove.

Light:-Light, including sunlight, will speed up the rate at which the oils in the coffee spoil. Store coffee beans in a dark place in opaque containers.

Moisture:-Coffee beans attract moisture, which speeds up oxidation. Avoid storing coffee near a sink or anywhere water could be splashed. Steam is also bad, so keep exposed coffee beans away from kettle or boiler machine.

Self check 8: Transferring blended tea and coffee to storage

Name…… ID…… Date…….

Direction

I. Answer the following question and explain if necessary

1. Write the key factors of coffee storage
2. What is the purpose of transferring the blended coffee and tea to storage?
3. When blended coffee is stored in a wet place what it leads to the stored coffee?

Note: Satisfactory rating > 10points Unsatisfactory - below 8 points

You can ask you teacher for the copy of the correct answers

Operation sheet:1	Starting Blending process

Procedure 1

Step1: Wear the appropriate personal protective equipment (PPE)

Step2: set up the blending machine or blender

Step3: Have all of your ingredients and accessories nearby, things can happen quickly

Step4: weighing and sampling the ingredient /material for blending process.

Step5: run or monitor blending equipment/machine for process

Step6: Apply the blending process

Step7: check the final quality of blended product (sensory analyze)

Operation sheet:2	Producing blended tea and coffee

Procedure 2

Step1: Wear the appropriate personal protective equipment (PPE)

Step2: Identify and weighing the ingredient/material for producing blend tea and coffee

Step3: identify the purpose of producing the tea or coffee product/target of producing by blending

Step4: apply the process by adjusting the equipment/machine

Step5: sampling and check the quality of the blended products

Step6: packing the products with appropriate packaging material

Step 7 apply shut down procedure

Operation sheet :3	Packing tea blended

Procedure 3

Step1: wear personal protective equipment (PPE)

Step2: adjust packaging machine or sealer machine

Step3: weight tea amount of tea blended

Step4: avoid the letting out gas

Step5: use vaccumized sealer machine

Step 6: press automatic/manual packaging machine

Step7: fill the blended product to the bag/carton or container

Step8: pack the filled products

Step9: deliver to the store (storage room)

LAP Test	Practical Demonstration

Name: _____ Date: _____

Time started: _____ Time finished: _____

Instructions: Given necessary templates, tools and materials you are required to perform the following tasks within --- hours.

Task 1: Starting Blending process

Task2: Producing blended tea and coffee

Task 3: Packing tea blend

LG #33	LO 3: Shut down the tea and coffee blending process and tea packing process

Instruction sheet

This learning guide is developed to provide you the necessary information regarding the following content coverage and topics:

- Shut-down the process according to company procedures.
- Collecting, treating and disposing or recycling wastes

This guide will also assist you to attain the learning outcomes stated in the cover page. Specifically, upon completion of this learning guide, you will be able to:

- Shut-down the process according to company procedures.
- Collect, treat and dispose or recycle waste

Learning Instructions:

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described below.
3. Read the information written in the “Information Sheets”. Try to understand what are being discussed. Ask your trainer for assistance if you have hard time understanding them.
4. Accomplish the “Self-checks” which are placed following all information sheets.
5. Ask from your trainer the key to correction (key answers) or you can request your trainer to correct your work. (You are to get the key answer only after you finished answering the Self-checks).\
6. If your performance is satisfactory proceed to the next learning guide,

Information sheet 1: Shut-down the process according to company

1.1. Shut-down the process according to company procedures.

This is final process of blending and packing coffee and tea process will shut-down based on the specifications and guidelines of the manufacturer.

The Purpose of Shut-down process /cleaning is to make clean and avoid the fundamental factors that expose to blending and packing in tea and coffee process.

Normally shutdown includes steps to render the systems safe, such as removal of hazardous materials and waste. The systems might be cleaned as part of the shutdown; cleaning is often a process up to itself requiring its own set of startup, operation in shutdown procedures for any food processing industry.

1.2 Steps to shut down coffee machine

- ✓ Perform full back flush of water.
- ✓ Plug off all equipment/machinery that used for blending and packing process
- ✓ Clean the surface of blending machine screens and steam on the machinery and around the machine that you work like roasting, blending, grinding and sealing machine carefully carry out in order to keep healthy of machine.
- ✓ Flush lots of hot soapy water down the drain.
- ✓ Flush lots of hot soapy water down the discharger rinsed after the cleaning is done.
- ✓ Make Empty blending hopper and packer until it empty.
- ✓ Switch off the power from the machine at all on the right side the wall.
- ✓ Close the main water tap connecting water to the machine.

1.3. Restarting blending and packing machines:-

- Switch ON the machine you want
- Monitor the machine as it work functionally
- Clean the machine you want to work with
- Connecting tap hot water to the machine for properly clean.
- Wash the internal and external surface of machine in order to avoid the hazards
- Finally make tidy equipment/machine for next process.
- Rinse and dry machine interior and external parts.
- Place machines from locations where there is a risk of frost in a protected area respective and contact technician for frost protection.

Note: Satisfactory rating > 10points Unsatisfactory - below 8 points

You can ask you teacher for the copy of the correct answers

Self check 1 :Shut-down the process according to company procedures.

Name…… ID…… Date…….

Direction I. Answer the following question and explain if necessary

1. What is shutdown process? (5 points)

2. Write the important steps of shutdown procedure? (5 points?

3. To restart the coffee and tea blending machine what you have to do? (5 points?

Information sheet 2:Collecting, treating and disposing or recycling wastes

2.1 wastes

Waste (wastes) is/are unwanted or unusable materials.

Waste is any substance which is discarded after primary use, or is worthless, defective and of no use. Waste a by-product is a secondary product derived from a production process, manufacturing process or chemical reaction; it is not the primary product or service being produced.

Wastes may be generated during the extraction of raw materials green coffee bean and tea leave preparation, the processing of raw materials into intermediate and final products, the consumption of final products, and other human activities.

Residuals recycled or reused at the place of generation are excluded.

A. Waste collection

Waste collection is a part of the process of waste management. It is the transfer of solid or liquid waste from the point of use and disposal to the point of treatment or landfill

Recycling wastes is recovery and reprocessing of waste materials for use in new products.

The basic phases in recycling are the collection of waste materials, their processing or manufacture into new products, and the purchase of those products, which may themselves be recycled.

Waste reduction (or prevention) is the preferred approach to waste management because waste that never gets created doesn't have waste management costs.

An example of waste reduction is reducing unnecessary packaging and blending from manufactured products and produces.

Self check 2: Collecting, treating and disposing or recycling wastes

Name…….ID……Date……..

I. Answer the following question

1. Define the following question and explain them briefly **(2 points each)**

a. Waste

b.waste collection

c.waste treatment

d.waste recycling

2. What is waste reduction? (5 points)

Note: Satisfactory rating > 10points Unsatisfactory - below 8 points

You can ask you teacher for the copy of the correct answers

LG #34	LO4. Record information

Instruction sheet

This learning guide is developed to provide you the necessary information regarding the following content coverage and topics:

- Recording workplace information

This guide will also assist you to attain the learning outcomes stated in the cover page. Specifically, upon completion of this learning guide, you will be able to:

- Record workplace information

Learning Instructions:

1. Read the specific objectives of this Learning Guide.

2. Follow the instructions described below.

3. Read the information written in the “Information Sheets”. Try to understand what are being discussed. Ask your trainer for assistance if you have hard time understanding them.

4. Accomplish the “Self-checks” which are placed following all information sheets.

5. Ask from your trainer the key to correction (key answers) or you can request your trainer to correct your work. (You are to get the key answer only after you finished answering the Self-checks).

Information sheet 1: Recording workplace information

1.1 Recording workplace information

Work place records will be specified in the organization's record keeping processes and procedures and include one or more of the following: hard copy, such as documents, images, reports and forms. Electronic, such as documents, images, reports, forms, databases and spreadsheets. Physical, such as samples of products or materials

Filing means keeping documents in a safe place and being able to find them easily and quickly in order to get quickly. Documents that are cared for will not easily tear, get lost or dirty. A filing system is the central record-keeping system for an organization. It helps you to be organized, systematic, efficient and transparent .Records categories into two policy records and operational records.

Collect information:-Internal or external collection

External, example customer transaction

- ✓ File or data is utilized for communication or decision making purpose
- ✓ Correct the storage/back up procedure
- ✓ Save file in computer, daily back-up procedure

1.2 Workplace information

A. Standard Operating Procedures (SOPs)

Standard operating procedure (SOP) is a set of step-by-step instructions compiled by an organization to help workers carry out complex routine operations. SOPs aim to achieve efficiency, quality output and uniformity of performance, while reducing miscommunication and failure to comply with industry regulations.

Standardization is defined as an activity that gives rise to solutions for repetitive application to problems in various disciplines.

Generally, the activity constitutes the process of establishing (determining, formulating, and issuing) and implementing standards. Thus, standards are the perfect result of a standardization activity and inside the context of quality systems consist of quality documents or documents related to the quality system. High levels of quality are important to accomplish Company business objectives. Quality, a source of competitive benefit, should stay a symbol of Company products and services.

Top management should provide the training and an appropriate motivating environment to support teamwork both inside and across organizational units for employees to advance processes.

B.Specifications

A specification often refers to a set of documented requirements to be satisfied by a material, design, product, or service.

A specification is often a type of technical standard.

Grade 1: Specialty Grade Coffee Beans. This is the highest grade of beans, and to be classified as Grade 1 Coffee, the beans need to have no primary defects and 0-3 full defects, with a maximum of 5% above and below the specified screen size

Grade 2: Premium Grade Coffee Beans: Same as Grade 1 except maximum of 3 Quakers. 0-8 full defects.

Grade 3: Exchange Grade Coffee Beans: 50% above screen 15 and less than 5% below screen 15

This specification is based on safety, Traceability, hygiene and control.

Avoid contamination to ensure food safety

Production schedules and batch instructions

The time table for the use of resources and processes required by a business to produce goods or provide services. A typical business will modify its production schedule in response to large customer orders to accommodate resource changes, to reduce costs, and to increase overall production efficiency.

Scheduling is the process of arranging, controlling and optimizing work and workloads in a production process or manufacturing process. Scheduling is used to allocate plant and machinery resources, plan human resources, plan production processes and purchase materials.

Unscheduled have a major impact on the productivity of a process. In coffee and tea process, the purpose of scheduling is to minimize the production time and costs, by telling a production facility when to make, with which staff, and on which equipment.

Verification procedures

Verification and validation are independent procedures that are used together for checking that product, service, or system meets required and specifications that it fulfills its intended purpose. These are critical components of a quality management system such as ISO 9001

The purpose of verification is to produce a level of confidence that the plan is based on standard of the coffee and tea production that is adequate to control the hazards associated with product and process is being followed. This step is known as validation

HACCP verification is defined as those activities, other than monitoring, that establish the validity of the HACCP plan and ensure that the HACCP system is operating according to the plan. Verification is done to determine.

Self check 1: Recording workplace information

Name ……ID….....Date……

I. Answer the following question and explain them

1. What is service in food processing industry? (5 points?
2. What is compressor air? (5 points?
3. What is the difference between steam gas? (5 points)

Note: Satisfactory rating > 10points Unsatisfactory - below 8 points

You can ask you teacher for the copy of the correct answers.

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