CONFECTIONERY PROCESSING

LEVEL-II

Based on May 2019, Version 2 Occupational standards

Module Title**: preparing chocolate confectionery**

LG Code**:** IND COP2 M09 (LO 1-6) LG (27-32)

TTLM Code**: IND COP2 TTLM9 1020v1**

UNESCO
United Nations
Educational, Scientific and
Cultural Organization

Table of Contents

LG #27	LO #1- Temper covertures

Instruction sheet
This learning guide is developed to provide you the necessary information regarding the following content coverage and topics: • Melting and tempering covertures using correct *technique* and temperatures. • Manipulating covertures to the correct viscosity with appropriate color, gloss and snap • Controlling the retain temperature and consistency 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: • Melt and temper covertures using correct *technique* and temperatures. • Manipulate covertures to the correct viscosity with appropriate color, gloss and snap • Control the retain temperature and consistency
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 **4** Accomplish the Self-checks **5** Perform Operation Sheets **6** Do the “LAP test”

Information Sheet-1	Melting and tempering coverture

1.1 **Introduction**

SCOPE OF CONFECTIONERY

A study of CONFECTIONERY opens up a large numbers of employment opportunities and avenues both by the way of wage employment.

Wage employment means that one works for another person or organization and receive wages or salary for services.

1.1,2 The Confectionery is mainly divided into these following segments:

- **Cakes and Pastries section**

  This section includes the different preparations like-dry cakes, fresh cakes, cupcakes, puddings and pies. This section covers most of the products we see in a pastry shop.

- **Chocolate Section**

This section deals with the different preparations like molded chocolate, handmade chocolates, Chocolate garnishes, sculptures etc.

- **Sugar Confectionery**

This section deals with the different preparations like candies, caramel, sugar craft, fondant, pulled sugar etc.

1.2 **Melting**

Melting is the process by which a substance change from the solid to the liquid melting is also known as fusion.

Melting according to chocolate on the stovetop is the preferred method. Double boilers use best control over the heat .The steam of the simmering water gently melts the chocolate so that it doesn't burn. The melting Process and working process are different between the two**.** Melting, Working and cooling Melting temperature: 45-50°C. Ideally chocolate is melted in a special „tempering kettle" working on the warm air principle, where it is protected from water and steam.

Temperatures vary with different chocolates. Check the recommended temperatures for the chocolate type and flavor you choose. Keep in mind, the humidity level in the room, Melting chocolate chips in blow in the microwave in 20 second interval attempt to stir after each time

Fig 1 melted chocolate

Coverture make in microwave 3 ounces of the chocolate at 50 percent power until it are mostly melted, stirring frequently. Then add the remaining 1 ounce of chocolate and the white chocolate and stir it until melted, returning it to the microwave for no more than 5 seconds at a time to complete the melting.

Coverture is used by professionals for dipping, coating, molding and garnishing. The term "coverture chocolate" is distinct from compound chocolate. Products that contain compound chocolate have a lower percentage of solids and contain non-cocoa fats.

1.3 Microwave ovens

Microwave ovens are well suited to melt small amounts of chocolate with speed and accuracy. Depending on the size of the oven, 500-1000 grams of finely chopped chocolate is placed in a microwave safe bowl with straight sides. Deposit the bowl off center onto the turntable and heat for 1 minute on „medium". Stir the chocolate and repeat this procedure one more time. Use a thermometer to check the temperature.

If the chocolate is still not quite melted use 10-second intervals on a „high" setting until the desired temperature is achieved.

To obtain chocolate tablets of covered confectionery of good color texture and in a stable form so that fat bloom will not develop on the surface during storage, the chocolate must be tempered

1.4 Tempering

Tempering is a heat treatment technique applied to ferrous alloys, such as steel or cast iron to achieve greater toughness by decreasing the hardness of the alloy coverture

1.4.1 Tempering coverture

The final process is called tempering. Uncontrolled crystallization of cocoa butter typically Results in crystals of varying size, neat, and even in size, shape and appearance some or all large enough to be clearly seen with the naked eye. This causes the Surface of the chocolate to appear mottled and matte, and Causes the chocolate to crumble rather than snap when broken .the uniform sheen and crisp bite of properly processed chocolate are the result of consistently small Cocoa butter crystals produced by the tempering process.

The fats in cocoa butter can crystallize in six different Forms (polymorphous crystallization) the primary purpose of tempering is to assure that only the best form is present. The six different crystal forms have different properties. The techniques of

tempering is stirring addition method, tabling method, heated water jackets and microwave

Tempering chocolate is important to achieve the following criteria in the end product

- Snap when broken
- Shiny gloss
- Soft melting in the mouth
- Shelf life
- Reduce fat bloom
- Tempering requires sufficient heat transfer to the chocolate to liquefy the cocoa butter and assist the development of approximately 10% of small well-dispersed crystals.

Fig 2 Hard bite of the coat

1.4.2 The method of tempering

1) Direct warming method

As most manufacturers of coverture will temper their products, it is possible to carefully melt this chocolate and retain the original temper.

Only a very gentle application of heat to first soften then dissolve the chocolate will retain the temper.

At about 27°C it will take on a dough-like consistency and soften further with increased warming to 30° - 32°C.

2) Injection or addition method

Part of the chocolate is completely dissolved (45° - 48°C), then finely chopped, grated or shaved correctly-tempered chocolate is added and stirred until the desired working temperature is reached (30° - 32°C

3) Tabling, manipulation or slab method

A thick marble, granite or similar slab is required for this method, in order to cool the warmed chocolate without the slab itself warming up too much.

About two thirds of the completely dissolved chocolate (45° - 48°C) is poured on to a slab and spread to be 10-15mm thick

Coverture is a term used for chocolates rich in cocoa butter. Popular brands of coverture used by professional pastry chefs and often sold in gourmet and specialty food stores include: Valrhona, Felchlin, Lindt & Sprüngli, Scharffen Berger, Cacao Barry, Callebaut, Chocolate, Chocó fig fuel chocolates, and Guittard. These chocolates contain a high percentage of cocoa

The chocolate making processes are:

- Cleaning
- Roasting
- Shells remove
- Nibs are ground
- Cocoa separate from cocoa butter

- Other ingredient are added to the chocolate
- Couching machine knead the chocolate past

1.3 Tools and equipment: top oven, pan, table,, spoon, hand mixer, molder Mixing machine / mixer Hand whisker Measuring cu

1. Measuring Jug: An equipment used for measuring all the types of liquids in the liter

Fig1 measuring jug

2. Biscuit Cutter: It is used for the cutting of different types of biscuits. These are available in different fancy shapes.

Fig 2. Biscuit Cutter

3. Wooden Spoon: It is used at the time of cooking, specially sugar based products.

Fig3 Wooden Spoon

4. Wire Whisker: It is used for whisking egg and cream and helps to aerate with air.

Fig4 Wire Whisker

Large Equipment used in Confectionery

1.Weighing Scale: It is used for the weighing the raw materials in the unit of grams and kilograms.

Fig5 Weighing Scale

2. **Single Deck Oven**: It is an oven with the single deck used for baking.

Fig6 Single Deck Oven

3. **T able T op Planetary Mixer**: An equipment with the three attachments - kneader , whisker and creamer for different methods of preparations in bakery and Confectionery.

Fig7 T able top Planetary Mixer

Equipment may include:

Trays

- Trays for filled moulds
- Trays for de-moulded chocolates.

All these trays will have to food standard. Trays in professional organizations need to be the same size.

Trays are used to carry several moulds for ease of handling.

Rather than making four trips to cooling area it is easier to make one.

Racks

Are required for holding trays and if on wheels makes moving around the kitchen easier.

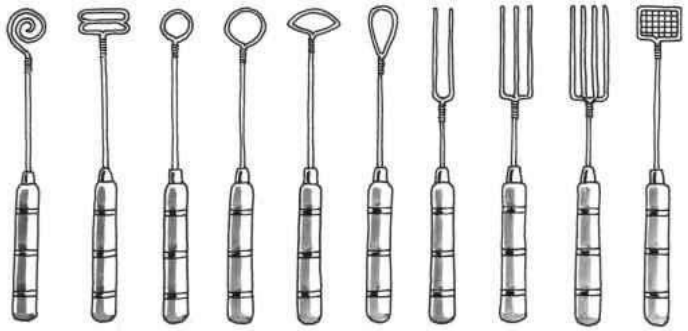

Fig. 8 rack

Bowls

Various sizes are required for mixing ingredients and holding tempered chocolate. Stainless Steel is recommended but good quality food grade plastic or polycarbonate.

Mixing machine

Some of the fillings may have to be mixed before they are incorporated into the chocolate.

Rolling pins

Rolling pins are used to roll pastes to a consistent thickness and this is best achieved by using bars either side of the paste that is required thickens

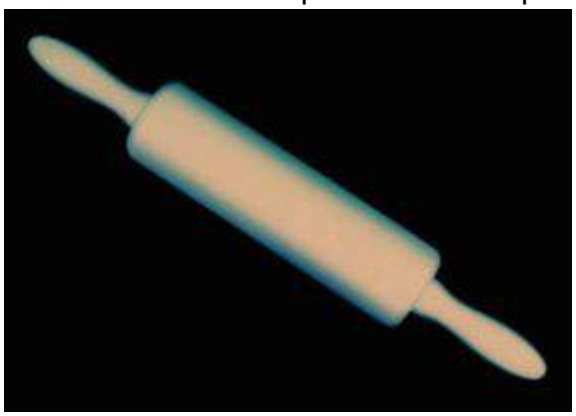

Fig 9 rolling pin

Moulds

Moulds of various types will be required.

Polycarbonate is the modern standard as the old tinplate was harder to keep clean and rust free.

Fig 10 molding pan

Rings

Many shapes may be required to hold molten fillings to shape until setting has been achieved

Measuring Spoon: It is used for measuring the dry ingredients in small quantity like

1.5 gms,

2.5 gms, 5 gms, 10 gms.

Self-check 1	Written test

Name…… ID…… Date…….

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

Test 2 true or false

1 Melting is the process by which a substance change from the solid to the liquid (1ponit) melting

2 the consistence and thickens of tempering is smooth, gloss.(1point)

Test 2 Test I: Short Answer Questions

1 Melting is the process by which a substance change from the solid to the liquid (1ponit) melting

2 the consistence and thickens of tempering is smooth, gloss.(1point)

Note: satisfactory rating- (≥5point) ***Unsatisfactory-below 5***

You can ask your teachers for the copy of the correct answer

Answer sheet

Name _____ *score=*_____

*Rate =*_____

Information Sheet-2	Manipulating coverture to the correct viscosity

2.1. Manipulating coverture to the correct viscosity

Manipulating coverture is defined as skillful handling controlling or using of something or someone. Viscosity is the resistance to flow" and in molding. This is a very important factor when trying to make a good part for your customer. There are many different ways to influence viscosity and they are all dependent on the situation at hand. It is important to note that viscosity is most affected by two things: heat and shear. This blog is intended to help you understand what to look out for when adjusting certain parameters and how the adjustments will affect your material.

Tempering affects the regular structure of the chocolate mass, resulting later in the required soft melting, snappy bite and beautiful gloss. Over tempering will produce a thicker coating material and affect the coating on the finished product.

Under tempering will reduce the viscosity and produce a thinner coating on the center Chocolate thickness is based on water, with water being a viscosity level of 1 and each number above is how many times the thickness of water that item is in a melted state. So, for example, a 30 viscosity is 30 times the thickness of water, while a 125 viscosity is 125 times the thickness water. In most cases when a processor is looking to increase or decrease viscosity they are usually adjusting.

Self-check 2	Written test

Name…… ID…… Date…….

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

Test 2 choosing the best Answer

1 _____ is skillful handling and correct viscosity (3 point)

A viscosity B chocolate C Manipulating *converter D none*

Test I: give short answer

1 Define the Viscosity according to chocolate processing? (3 point)

Note: satisfactory rating-(≥6 point) ***Unsatisfactory-below 6 point***

You can ask your teachers for the copy of the correct answer

Answer sheet

Name _____ *score=*_____

*Rate =*_____

Information Sheet-3	Controlling the retain temperture and consistency

3.1 Controlling the retain temperture and consistency

Temperature control is process in which change of temperature of spaces tempering controls the crystals so that only consistantly small crystal are produced resulting in much better quality chocolate have white possible. Avoide the need to temper chocolte complety by rolling my truffles in sugar, ocoa or nuts. but if the recipe requires it and you want your chocolate to be shine, snapable. without a white bloom than temper you must Depending on the nature of the food operations undertaken, adequate facilities should be available for heating, cooling, cooking, refrigerating and freezing food, for storing refrigerated or frozen foods, monitoring food temperatures, and when necessary, controlling ambient temperatures to ensure the safety and suitability of food.

When you heat chocolate, the cocoa butter crystals melt and the chocolate becomes fluid, but if you get the chocolate too hot, it can separate into burned, blackened cocoa particles and pale golden liquid. ... It contains small amounts of fats that do not melt until high **t**emperature**s**--over 200°F/93 °C. Pour two-thirds of the melted chocolate out on a marble slab. Spread it out with a spatula and bring it from the outside to the center. This process must never be interrupted until the chocolate has the consistency of freshly cooked custard and a temperature of 26-27°C.

Immediately return the cooled chocolate to the one-third chocolate left in the bowl and mix well.

3.1.1. Desired temperature

chocolate 30-31°C/Milk chocolate 28-29°C/White chocolate 28-29°C

- If the chocolate is still too warm, temper again
- If the chocolate is right go ahead with your work
- If the chocolate is too cold, gently heat it, degree for degree, controlling the
- Temperature climbs constantly with a thermometer

3.1.2. Tempering dark chocolate profile

- *50°C all crystals melted*
- *30-31°C working temperature*
- *27°C cooled temperature*
- *20°C room temperature*
- *18°C storage temperature.*

Self-check 2	Written test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

Test 2 choose the best answer

1 which of the following is dark chocolate profile(?2point)

A. milk chocolate B. *27°C cooled temperature C. dark chocolate D. all*

Test 1 give short answer

2 Explaine the importance of controling accourding to chocolate processing?(2point)

3 describe controlling the temperature?(2point)

Note: satisfactory rating- (≥3 point) Unsatisfactory-below 3 point

You can ask your teachers for the copy of the correct answer

Answer sheet

Name _____ score=_____

Rate =_____

Operation sheet 1	Melting and tempering coverture

Procedure

Step 1: Wear PPE

Step 2: -select recipe

Step 3 select ingredient and misen- place

Step 4 prepare tools and equipment

Step 5 prepare the temper according to melting technics

Step 6 present properly

Operation sheet 2	Chocolate making

Procedure

Step1 cleaning the seed

Step2 roasting

Step3 remove the shell

Step4 grounding the nibs

Step 5 separate cocoa from cocoa butter

Step6 add other ingredient to the chocolate

Step 7 knead the chocolate paste

Step 8 correct consistence

Step 9 prepare chocolate

LAP TEST	Performance Test

Name…… ID……..

Date…….

Time started: _____ Time finished: _____

Instructions: Given necessary templates, tools and materials you are required to perform the following tasks within **1** hour. The project is expected from each student to do it.

Task-1 Melting and tempering coverture

Task-1 making chocolate

LG #28	LO #2- Preparing centers and filling

Instruction sheet

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

- Choosing and manipulating ingredients correctly.
- Preparing *centers and filling* according to standard recipes.
- Selecting and make *fillings*
- Bringing fillings to the correct temperature, viscosity and consistence
- Ensuring the shapes and sizes of centers.

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:

- Choose and manipulating ingredients correctly.
- Prepare *centers and filling* according to standard recipes.
- Select and make *fillings*
- Bring fillings to the correct temperature, viscosity and consistence
- Ensure the shapes and sizes of centers.

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
4. Accomplish the Self-checks
5. Perform Operation Sheets
6. Do the “LAP test”

Information Sheet-1	Choosing and manipulating ingredients correctly.

1.1 ingredients

Ingredient is a substance that forms part of a mixture (in a general sense for example. in processing recipes specific which ingredient are used to prepare a specific task. A recipe is set of instruction that describe how to prepare or make something especially processing of chocolate processing recipe is the act of preparation of pastry for eating. It encompasses a vast range of method, tools and combination of ingredient to improve the flavor or digestibility of pastry. in generally requires the selection, measurement and combining of ingredient in an ordered procedure in an effort to achieve the desired result formula balance is the term usually used with regard to the balance of ingredients. To produce a good quality chocolate,

The essential ingredients must be present in the proper proportions. Various ingredients are tenderizing agents–sugar, shortening and egg yolk. These counteract the toughening or binding agents–cocoa, and milk solids. Thus an unbalanced cake formula would produce either a tough chocolate or a crumbly textured chocolate In general it is recommended to use the same quantity of flour to sugar, with the exception of High Ratio formulas where an additional 20% sugar can be used. The density of a forest is determent with the egg content. The more egg compared, to flour and sugar, is used the lighter the sponge. Some formulas are made with equal parts of sugar, flour and eggs. These sponges are classified as heavy or dense, but flour and sugar can now be reduced to half or less of the egg quantity, which produce lighter sponges.

Ingredient is a component or necessary part of something when recipe calls for cocoa this is an example of when cocoa are an ingredient in the recipe

- sugar

- color
- vanilla
- cocoa powder
- vanilla
- milk
- oil
- margarine
- icing

Manipulate ingredients at correct temperature to achieve the correct viscosity and consistency

Fig1 ingredient

Custards sugar has the advantage of dissolving more readily in cake batters. A sifted

Fig 2 sugar

- **Cocoa** is added to many recipes to make a chocolate variety of the same product. produce chocolate sponge 4% of the flour is replaced with cocoa powder

Fig 3 cocoa

There are various grades and types of cake margarines and shortenings used in cake making, as well as butter.

Fig4 Margarine

Little or no gluten development is desirable in cake making as it would toughen the cake. However, flour is the major ingredient and it must have some gluten forming properties to give the cake its characteristic structure.

Fig 5 flour

1.2 The key step of hygiene

- Clean – keep you and work areas clean.
- Separate and– keep raw ingredient
- Cook – always properly cook and prepare foods.
- Chill – store foods appropriately both before and after cooking.

Self-check 1	Written test

Name…… ID…… Date…….

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

Test I: choose the best answer

1 which of the following is ingredient for chocolate processing?(2 point)

A baking B cocoa C A&B D B

2----------is component or necessary part of chocolate processing?(2 point)

A cocoa B recipe C ingredient D all

1 which of the following is key of hygiene

A. Clean – keep you and work areas clean.
B. Separate and– keep raw ingredient
C. Cook – always properly cook and prepare foods.
D. Chill – store foods appropriately both before and after cooking
E. All.

Task 2 gives short answer

1. Define the meaning of ingredient? (5 point)
2. List necessary ingredient**? (5 point)**

Note: satisfactory rating- (≥5point) ***Unsatisfactory-below (5 point)***

You can ask your teachers for the copy of the correct answer

Answer sheet

Name _____ *score=*_____

Rate =_____

Information Sheet-2	Prepare centers and fillings

2, 1 preparing *centers and filling* according to standard recipes

- **Filled chocolate**

Filled chocolate are produced in two different ways.

A center is produced and then enrobed with chocolate. Suitable are centers that have thermal stability and may or may not soften on storage. Shell is produced first, filled with a liquid, semi liquid or even firm fillings and later back (sealed) with chocolate

Suitable fillings for enrobed chocolate are:

- ✓ Marzipan
- ✓ Gouache
- ✓ Nougats
- ✓ Croquets (Praline) hard, soft, laminated
- ✓ Fondants
- ✓ Glace fruit.
- ✓ Butter cream
- ✓ Fresh cream
- ✓ Mousse
- ✓ Custards
- ✓ Fruits and jellies

Fig 6 filling

Filling Procedure

Fig 7 filling procedure

- Polish the chocolate mould and warm it to 25 -28°C
- Temper the Coverture chocolate
- Fill the chocolate mould and shake it. This will remove possible air bubbles from the bottom of the mould
- Rest the Coverture chocolate filled mould for a few minutes to allow some of the Coverture chocolate to set on the inside of the moulds, then
- Turn the mould over and allowing the excessive Coverture chocolate to flow back into the chocolate pot
- Give the mould a few oscillating spins, and when no more chocolate flows out turn the mould over and clean it up with a scraper
- Take care not to damage the mould with metal scrapers
- Now place the mould into a cooler set the Coverture chocolate

- Prepare the filling as per recipe, remove the chocolate mould from the cooler and fill to 2mm from the top. Tap the mould to spread the filling evenly
- Place the filled chocolate mould in the cooler until the filling is firm to touch then remove from the cooler
- Warm the top of the filled Coverture chocolate mould with either a strip or fan heater, taking care not to melt the Coverture chocolate
- Cover the top of the warmed chocolate mould with tempered chocolate, top it to remove air bubbles and clean it up with a scraper. Then return the sealed chocolate mould to the cooler
- When set, place a tray on top of the chocolate mould and flip over. Tap lightly with a wooden spoon and then remove the plastic mould
- All the filled Coverture chocolates should now sit evenly spaced on the tray.
- Cover the top of the warmed chocolate mould with tempered chocolate; top it to on the tray.

2.2 Preparation of center

1. Temper the white Coverture chocolate and spread evenly over the slab. Using a comb scraper make a wavy pattern into the white Coverture chocolate

2. Cut into rectangles, 2 x 3cm pieces before the Coverture chocolate hardens.

- **Williams Truffle Sticks**

1. Brush the sticks thinly with tempered dark Coverture chocolate

2. When cool, cut into 3 cm long strips using a warm knife or warmed metal scraper.

Preparation is now complete.

- **Final product is must**

✓ Colorfully

✓ Consistency and texture

- ✓ Crust stability
- ✓ Moisture content
- ✓ Mouth feel and eating properties

Recipe card Thinning Syrup

group		Ingredients	Quantity
A		Sugar	500 g
		Water	175 g
		Glucose Syrup	50 g

Method:

- Boil to dissolve sugar crystals
- Remove from the stove.

Note:

Thinning syrup is also called „Stock Syrup" or „Bob Syrup".

Recipe Card: Gianduja Filling

Ingredient	200 g
Praline paste (Nutella)	160 g
Coverture Milk Chocolate,	
Total weight	**360 g**

Method:

- Melt chocolate to 45°C
- Warm the praline paste (40°C) and add to the chocolate. Stir till a smooth, homogenous mass is achieved
- Temper gianduja to 26°C. (This is done to stabilize the cocoa butter)
- Place the tempered Gianduja paste into a piping bag and fill Coverture chocolate lined mould to one-third
- Deposit one toasted Hazelnut into each Coverture chocolate case and push down firmly (OPTIONAL)

- Fill more Gianduja paste on top of toasted hazelnuts. Leave a gap of 2mm from the rim to allow chocolate to be sealed
- Refrigerate (5 -10 minutes)
- Warm the top of the Coverture chocolate, but do not over heat
- Back off with tempered Coverture chocolate
- Refrigerate 12°C-16°C for 10 – 30 minutes
- De-mould.

Self-check 2	Written test

Name…… ID…… Date…….

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

Test 1 choose the best answer

2 which of the following is suitable filling for prepare centering? (5point)

A Marzipan B recipe C flour D oil

Test 2 File the black space

1 list suitable filling? (5point)

_____-

_____

Note: satisfactory rating- (≥5point) ***Unsatisfactory-below (5 point***

You can ask your teachers for the copy of the correct answer

Answer sheet

Name _____ *score=*_____

*Rate =*_____

Information Sheet-3	Selecting and make *filling*

3.1 Selecting and make *filling*

The base ingredient in the filling is normally preparation before it is place into the pastry. This is due to the fact that the pastry may preparation before the filling and that can be dangerous to public health. If the filling is cooked, the moisture must be stabilized before it is placed into the pastry. Filling is stabilized by adding a starch based ingredient that will absorb the moisture and hold it in suspension during the baking process.

Pastries with filling that contain high moisture content need to be prepared quickly so the filling does not boil inside the pastry. If it boils it creates too much steam and breaks the pastry open spoiling the visual Affect of the finished product.

- **Savory fillings**

Vegetables need to be cooked before being placed into pastries due to their high water content.

Meat needs to be small enough pieces to be cooked by the penetrating heat before the pastry is cooked.

Cheese can be used as it is, but the cooking process will have an effect on the eating quality of the cheese.

- **Sweet Fillings**

Fruits need to be cooked before being used in fillings as the water content would spoil the pastry my making it soggy or water logged.

Sugar need to be in a starch gel mix because as it is exposed to any moisture it will dissolve and add extra moisture to the filling and also make pastry soggy

Make a well in the center and pour in the eggs, 1 cup milk, water, oil and 1 teaspoon vanilla. Mix well. Fill each ... Push tip through bottom of paper liner to fill each cupcake. The following are Cream Filled Chocolate Cupcakes.

- nougat
- anache
- flavored fondant
- croquet
- caramel
- jellies
- liqueurs
- Nuts and fruits.

Fig 8 center filling

- **Recipe Card: Fondant Filling**

Group	Ingredient	Quantity
A	Fondant	500 g
B	Flavor	To suit
C	Color	To suit
D	Thinning syrup	To suit

- **Method of fondant filling**

- Warm the fondant to 40°C
- Add the desired flavor and color
- If necessary thin fondant to the required consistency with thinning syrup
- Deposit fondant filling into prepared Coverture chocolate shells

Check the temperature of the fondant before depositing. It should be 32°C.using a piping bag to fill preformed ganache moulds and chocolate moulds with flavored fillings. Technique where the outline of a shape is traced with one color chocolate and

then the space inside is filled with another of contrasting color The drawing needs to be 'reversed out' or turned over to reveal the true picture

- ⌑ Characteristics of making filling must be:
- Color
- Mouth feel
- Moisture content
- Eating properties

Self-check 3	Written test

Name…… ID…… Date…….

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

Test 1 true or false

1 the Characteristics of making filling must be calorfully and smooth?(2point)

test 2 Give short answer

2 Define Savory fillings?(3 point)

3 Define Sweet Fillings ?(3point)

Note: satisfactory rating-(≥ 4 point) ***Unsatisfactory-below 4point***

You can ask your teachers for the copy of the correct answer

Answer sheet

Name _____ *score=*_____

*Rate =*_____

Information Sheet-4	**Fillings to the correct temperature, viscosity and consistency**

4.1 fillings to the correct temperature, viscosity and consistency

The fillings should be of a temperature and consistency where they can be rationally piped into the shells. This may require slight warming to soften the fat component. Care must be taken not to heat the fillings to a point where it will affect or soften the chocolate lining.

Consistency and texture is about how it feels in the mouth when the customer is consuming the product.

Dark chocolate 30-31°C/Milk chocolate 28-29°C/White chocolate 28-29°C

- If the chocolate is still too warm, temper again
- If the chocolate is right go ahead with your work
- If the chocolate is too cold, gently heat it, degree for degree, controlling the temperature.

The piping technique applied should result in the filling being level and about 2 mm

The moulds are finished off by applying a coat of tempered chocolate, scraping off the excess with a spatula. Spills on the sides of a mould are to be cleaned

Fig.1 piping technique

Fig.2 chocolate

- **Filling may include**
- ✓ fresh or crystalized fruit and fruit puree
- ✓ cream
- ✓ Meringue

Present chocolate pastry attractive using suitable service ware and decoration may include

- ✓ Glazed
- ✓ jells
- ✓ fruit purees
- ✓ fresh preserved or crystallized fruit
- ✓ filling including cream, mousses and fruit purees

Self-check 2	Written test

Name…… ID…… Date…….

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

Test 1choose the best answer 6point

1. What are the purposes of filling**?**

A color B garnishing C to stimulate the appetite D consistence

test 2File the black space (6 point)

1 How to pipe the chocolate mixture?

2 Filled chocolate are produced in two different ways. What are they?

Note: satisfactory rating- (≥ 6) ***Unsatisfactory-below (6point)***

You can ask your teachers for the copy of the correct answer

Answer sheet

Name _____ *score=*_____

Information Sheet-5	Ensure the shapes and sizes of centers

5.1 Ensure the shapes and sizes of centers

Shape is the appearance, the figure or what form it has.), size is the measurement (or since the shape of the notebook is rectangle, the size can be specified

The round shape of chocolate provides the maximum essence of taste. They believe that the chocolate offering the maximum surface tension has the power to influence perception above any other chocolate shape

After looking smelling and snapping place the chocolate in your mouth but resist the urge to chew and eat instead hold the chocolate against the roof of your mouth and pass your tongue over the bottom of it

Shape and size is important role in chocolate processing the shape of chocolate provide the maximum essence of test. They believe that the chocolate offering the maximum surface tension has the power to influence above any other chocolate shape. in chocolate preparation you must check the consistence neat, and even in size, shape and appearance is important

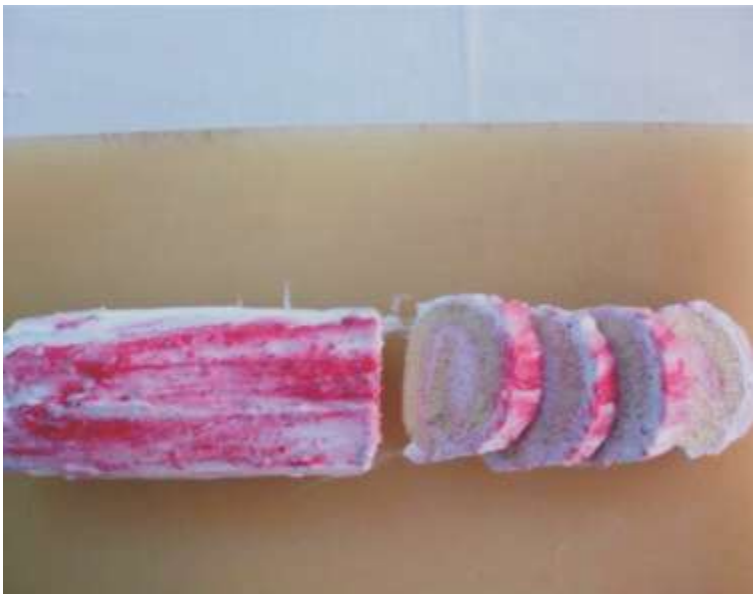

Fig4 rolled cookies

Self-check 2	Written test

Name…… ID…… Date…….

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

Test 1 true or false (2point)

1 Shape and size is important role in chocolate processing

2 when the chocolate is shaped suitable for eating

Test 2 give short answer

1 defines the meaning of shape and size?

Note: satisfactory rating- (≥2point) ***Unsatisfactory-below (2point)***

You can ask your teachers for the copy of the correct answer

Answer sheet

Name _____ *score=*_____

Rate

Operation sheet 1	Preparing centers and filling for fondant

Procedure

Step 1: wear safety clothe

Step 2: -select recipe

Step 3 select ingredient and misen pelce

Step 4 prepare molding pan

Step 5 Add the desired flavor and color

Step 6 making the fondant and fill

Step 6 present properly

Operation sheet 2	Preparing centers and filling

Procedure

Step 1: wear PPE

Step 2: -select recipe

Step 3 select ingredient and misen pelce

Step 4 prepare materials

Step 5 identify the filling items

Step 6 prepare decoration items

Step 7 adjust the consistence and make **Gianduja** Filling

Step 6 present properly

LAP TEST	Performance Test

Name……. ID……..

Date…….

Time started: _____ Time finished: _____

Instructions: Given necessary templates, tools and materials you are required to perform the following tasks within **1** hour. The project is expected from each student to do it.

Task-1 preparing centers and filling

Task 2 makes Gianduja Filling

LG #29	LO #3- hand mould

Instruction sheet

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

- Ensuring Cleaning and polishing the moulds.
- Keeping moulds constantly at the correct temperature .

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:

- Ensure Cleaning and polishing the moulds.
- Keep moulds constantly at the correct temperature

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
4 Accomplish the Self-checks
5 Perform Operation Sheets
6 Do the “LAP test”

Information Sheet-1	**Ensure cleaning, polishing and never touch the surface, and moulds**

1.1 Ensure cleaning and polishing the moulds

Molding is made possible by the fact that chocolate contract when it set thus. It pulls a ways from the mold and can be easily removed. Moulds are made of metal or plastic. They must be kept clean and dry and the inside must be kept shiny and free of scratch Cleaning of the moulds is the most unpopular job in chocolate making.

Cleaning is the process of removing unwanted substance, such as dirt, infections agent and other impurities, from an object or environment

Using mould simply pour your melted chocolate directly in to clean. Ungreased mould. Tap the molds on a hard surface to remove the air bubbles and pop in to the freezer. When the molds become misty, take them out and remove the chocolate by tapping

polish is the process of creating of smooth and shiny surface by rubbing it or using a chemical action, leaving a surface with a significant specular reflection still limited by the index of reflection of the material according to the Fresnel equation

Fig 1.molding pan

It is important that moulds for chocolate molding are

Nothing is more important to the confectioner than the cleanliness of the moulds when molding chocolate. . If you are not interested in cleaning moulds, stop now.

Moulds can be made of:

- Tinplate
- Stainless steel
- Plastic

Modern day moulds are all made from polycarbonate or plastic in varying levels of quality.

Moulds or molds were originally made of tinplate. These tinplate moulds were good for the job required but were also very difficult to keep in good condition

They damaged easily

- If dropped they dent
- If they get wet and not dried sufficiently they rusted
- If surface got scratched the chocolate would adhere to the scratch and stick.

- **Polish the moulds**

Polishing is best way to remove any last vestiges of foreign objects from the mould.

Moulds can be made from stainless steel, tinplate or various types of plastic, and vary in their flexibility and resistance to shock. All moulds have to be handled with great

care and should only be polished with non-abrasive soft materials. A soft cotton based cloth or quality cotton wool are best. Be aware that a cheaper quality cotton wool can be rather abrasive. For chocolates to be easily removed from a mould and to retain a high gloss, it is essential to thoroughly clean and polish each mould. When applying good work practices, moulds very rarely need to be washed. They can simply be cleaned after every use with a plastic scraper. Never clean with a knife or metal object, as this may cause damage. While not in use, moulds are best stored upside down to avoid dust particles settling on.

- **Cleaning and polishing procedure**

- Clean chocolate moulds:
- Remove any unwanted matter.
- Polish mould ready for use
- Ensure all inside surfaces are clear of foreign matter that may cause imperfections.
- Warm the mould ready to be filled
- Polycarbonate can be stored in controlled atmosphere cupboard to keep at temperature of 20°C
- Assists in keeping dry

- **Cleaning agent**

- All-purpose detergent
- Liquid a jacks

Self-check 2	Written test

Name…… ID…… Date…….

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

Test 1choose the best answer (3point)

1 which of the following is cleaning and polishing procedure

A mop B brush C Remove any unwanted matter D None

Test 2 Give short answer

1 How to polish the molding pan(?3point)

2 _____is made possible by the fact that chocolate contract :

Note: satisfactory rating- (≥3point) ***Unsatisfactory-below 3point***

You can ask your teachers for the copy of the correct answer

Answer sheet

Name _____ *score=*_____

Rate

Information Sheet-2	Keeping moulds constantly

2.1 Keeping moulds constantly

Moulds can be made from stainless steel, tinplate or various types of plastic, and vary in their flexibility and resistance to shock. All moulds have to be handled with great care and should only be polished with non-abrasive soft materials. A soft cotton based cloth or quality cotton wool are best. Be aware that a cheaper quality cotton wool can be rather abrasive. For chocolates to be easily removed from a mould and to retain a high gloss, it is essential to thoroughly clean and polish each mould.
When applying good work practices, moulds very rarely need to be washed.
They can simply be cleaned after every use with a plastic scraper. Never clean with a knife or metal object, as this may cause damage. If necessary wash in warm water (maximum 50°C) and dry thoroughly.

While not in use, moulds are best stored upside down to avoid dust particles depositing chocolate mould made for home cooks are usually thin plastic with shallow cavities that release easily and work well for solid chocolate items. They will stand up to occasion use professional chocolate molds are made from rigid, thick and strong polycarbonate with deep cavities After cleaning, drying and polishing polycarbonate moulds they are best Stored in warming cabinet so they are ready for the use. Warming cabinets are similar to bread proofers in that they have a constant Temperature 20°Cfor polycarbonate. Even in warmer climates these cabinets are ideal for storing moulds
To prepare moulds for use they are best warmed:

- 25°C for metal
- 20°C for polycarbonate.

2.2 Lining the moulds

Moulds have to be dry, cleaned and polished and be at a temperature of 25°C (metal) or 20°C (plastic). To line a mould, it is filled with tempered chocolate and the excess scraped off. To help trapped air bubbles to escape, the mould is now vibrated or tapped repeatedly with an appropriately sized piece of wood (e.g. a piece of broom handle). The mould should be turned upside down over the chocolate container, allowing the excess to run out, shaking the mould at the same time until the lining is of the required thickness. The mould is now turned back into its upright position. Using a plastic spatula or scraper, clean the upright surface of the mould.

To set the chocolate, the mould should be turned on its side or turned upside down onto silicon or greaseproof paper. When set, remaining spills are removed.
If the initial coat is too thin, line with a second layer of chocolate.
The moulds can now be filled or cooled in a refrigerator until the lining comes loose, and then be filled. This is best done in specific warming cabinet for holding moulds before filling. Ensure all inside surface are clear of foreign matter that may cause imperfection

- **Type of mould**

1. plastic mould
2. silicon mould
3. wood mould

Self-check 2	Written test

Name…… ID…… Date…….

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

Test 1True and false (2 point)

1 The moulds must be clean, dry and kept

Test File the black space (10 point)

1 Define the moulds?

2 How to kept mouled?

3 list three types of mould?

Note: satisfactory rating-(≥ 6 point) ***Unsatisfactory-below 6point***

You can ask your teachers for the copy of the correct answer

Answer sheet

Name _____ *score=*_____

Rate

Operation sheet 2	Handling mould

Procedure

Step prepare cleaning agent

Step 1: Clean chocolate moulds:

Step 2 Remove any unwanted matter.

Step3 Polish mould ready for use

Step Ensure all inside surfaces are clear of foreign matter that may cause imperfections.

Step5 Warm the mould ready to be filled

Step6 Polycarbonate can be stored in controlled atmosphere cupboard to keep at temperature of 20°C

Step7 Assists in keeping dry

LAP TEST	Performance Test

Name…… ID……..

Date…….

Time started: _____ Time finished: _____

Instructions: Given necessary templates, tools and materials you are required to perform the following tasks within **1** hour. The project is expected from each student to do it.

Task-1 handling mould

LG #30	LO #4 make mould confectioner

Instruction sheet

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

- Selecting covertures or coatings
- Tempering and setting covertures correctly
- Applying a range of fillings to ensure sealing layer of chocolate
- Handling and storing de-molded chocolates.

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:

- Select covertures or coatings
- Temper and set covertures correctly
- Apply a range of fillings to ensure sealing layer of chocolate
- Handle and store de-molded chocolates

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
4. Accomplish the Self-checks
5. Perform Operation Sheets
6. Do the “LAP test”

Information Sheet-1	Selecting covertures or coatings

1.1 Selecting covertures or coatings

Coverture" is a term used for chocolates rich in cocoa butter. Popular brands of coverture used by Professional pastry chefs and often sold in gourmet and specialty food stores include: Valrhona, Felchlin, Lindt & Sprüngli, Scharffen Berger, Cacao Barry, Callebaut, Chocolate, Chocó fig fuel chocolates, and Guittard. These chocolates contain a high percentage of cocoa Prepare a variety of chocolate coating, icing, glazes and decorations many decorations can be used but sometimes the natural sheen or shine of the chocolate is sufficient Coating is commonly known by many names; confectioner coating, candy melt coating and dipping coating It is the gloss of good quality Coverture chocolate is the main 'eye appeal' and the eating 'mouth-feel' flavor that lingers long time in the mouth. Select tempered coverture to match centers Bring centers to be coated to the correct temperature.

- **Coating items**
- Peanuts
- Raisin
- Caramel apple
- Almond
- Cream
- Marshmallow
- fruit

1.2 Flavors that work well in Chocolate coverture

- **Alcohol**

- Whisky
- Dark Rum
- Orange liqueurs
- Brandy.

- **Non-Alcohol Flavors**

- Coffee or coffee bean nibs
- Citrus oils
- Salt
- Spices like cinnamon; nutmeg; ginger; cloves; alone or as Gingerbread spice mix
- Chill
- Lavender flowers.

Self-check 1	Written test

Name…… ID…… Date…….

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

Give short answer

Test 1 choose the best answer 3point

1 which of the following is true about Alcohol flavor

A milk B Dark Rum C flour D all are true

Test 2 fill the black 3 point

2 _____is a term used for chocolates rich in cocoa butter

3 list the Flavor of chocolate converter

Note: satisfactory rating-(3point) Unsatisfactory-below 3point

You can ask your teachers for the copy of the correct answer

Answer sheet

Name _____ *score=*_____

Rate

Information Sheet 2	Tempering and setting covertures correctly

2.1 Tempering and setting covertures correctly

Tempering for most chocolate work, coverture will not handle properly if simple melted. it will take too long to set, and when it does set, it will not have the desired shine or the proper texture. The process of preparing coverture for dipping, coat, molding, and other purpose is called tempering

Use tempered coverture and set in coverture correctly according to the techniques for chocolate Apply tempered chocolate to moulds Achieve clean edges to coverture Set in appropriate condition The covertures should now register 30° - 32°C. After gentle heating the chocolate is tested for setting properties and should now be ready for user temper covertures correctly and set in moulds ensuring it is of even and correct thickness and free from marks or air bubbles. Coverture contains cocoa butter and no other fat. There are three main ingredient of dark coverture

- cocoa solids
- sugar
- cocoa butter

- **Suitable for setting coverture**
- slightly cool
- dry
- Dark place
- Preferably a consistent temperature blow 60 to 70F

(Ideally between 65and 68 F)

Fig 1 chocolate mould

Fig 2 melted temper 1

Self-check 2	Written test

Name…… ID…… Date…….

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

Test 1 choose the best answer (3point)

Which of the following is ingredient of dark chocolate?

A cocoa solid B sugar C Cocoa butter

Test 1 Give short (3point)

1 discusses how to keep the coverture?

Note: satisfactory rating-(≥3point) ***Unsatisfactory-below(3 point)***

You can ask your teachers for the copy of the correct answer

Answer sheet

Name _____ *score=*_____

Rate

Information Sheet-3	Applying a range of fillings and sealing layer of chocolate

3.1 Applying a range of fillings to ensure sealing layer of chocolate

Apply a range of fillings ensuring a level surface and allowing sufficient space for sealing with a layer of chocolate of appropriate thickness. Using a piping bag to fill preformed ganache moulds and chocolate moulds with flavored fillings.
Fruit flings with fruit pieces and fresh fruit taste. Product properties: thermos table, 40% - 50% total native fruit content Use: fresh pastry, for baking and freezing, for direct consumption all kinds of bakery and confectionery products, puff and Danish dough, yeast dough, cakes, pancakes, jelly rolls, desserts...

3.1.1 Filling the chocolate shells

1 gently warm yours ready to dip cream center, caramel or ganache on allow power setting in your microwave until it is a pudding like consistency

1. fill a disposable polypropylene bag with the prepare filling or roll the size you want in your hands
2. 3 fill the chocolate shell about 1/8 from the top of the mold
3. 4 gently tap the mold on the counter to remove all air bubbles and to make sure you have the filled the chocolate shell
4. return the mold to the refrigerator for about 5 minutes to give the filling time to set up

Fig 3 filling fruit

- **Filling creams**

Product properties: some of these products are suitable for needle filling machines Use: bakery and confectionery products after baking Application: doughnuts, croissants, waffle, short pastry, tea cookies, cakes, desserts... Hazelnut with chocolate favor Egg liqueur - special Peanut Strawberry – Yoghurt Tiramisu Nougat Vanilla Milk caramel

Fig 4 filling ream

- **Filling assortment with the taste of:**

✓ Hazelnut with chocolate favor
✓ Egg liqueur – special
✓ Peanut Strawberry –
✓ Yoghurt Tiramisu
✓ Nougat
✓ Vanilla
✓ Milk caramel

Sealing is agents recommended for lasting protection of the glaze on dragees. the solution containing shellac protect the dragees from mechanical strained ensure that the glaze remaining stable even with high humidity or temperature

3.2 Protective sealing

Particular sensitive chocolate product should be protected using sealing agent, as should the color and surface glaze of sugar dragees. the coating makes the dregees. Lees susceptible to external influences caused by temperature fluctuation or high Humidity Sealing of dragees is particular recommended for climate condition with high humidity

Self-check 2	Written test

Name…… ID…… Date…….

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

Test 1 Choose the best answer (10point)

1 ____is ensuring a level surface and allowing sufficient space for sealing

A portioning B chocolate C packaging D filling E none

1 suitable for protection is ____

A sealing B temperature C a & b D a

Note: satisfactory rating- (≥5 point) Unsatisfactory-below (5point)

You can ask your teachers for the copy of the correct answer

Answer sheet

Name _____ *score=*_____

Rate

Information Sheet-4	Handling and storing de-molded chocolates

4.1 Handling and storing de-molded chocolates

Store finished pieces in a plastic container, and keep in a dark, cool, dry place, away from any humidity or moisture. It's not recommended to store chocolate in the refrigerator; it can cause it to sweat and get sticky Seal them in an air-tight container keep them away from the light. This process can be helped along by placing the moulds into a refrigerator set not lower than 10°C. Cooler temperatures may give the chocolate a thermal shock, resulting in undesirable characteristics (discolored streaks or blotchy marks).

4.1.1 De-molding

To remove the chocolates, turn the moulds upside down on to a greaseproof paper-lined tray, or another clean and dry area reserved for chocolate work. top quality Polycarbonate moulds are quite strong and thick. When de-molding a sharp short tap on the bench top will dislodge chocolates from mould

4.1.2 Handling after de-moulding

To avoid fingerprints and marks, lint-free cotton or thin plastic or nylon cotton gloves should be worn whenever the chocolates are handled.

Human skin exudes oils all the time so take care when handling chocolates.

All chocolates and chocolate products should be stored in a dry, odor-free area at about 18°C. When de-moulded, the chocolates should be placed onto clean storage trays until required for display. Human skin exudes oils all the time so take care when handling chocolates. All chocolates and chocolate products should be stored in a dry, odor-free area at about 18°C. When de-moulded, the chocolates should be placed onto clean storage trays until required for display .handling chocolate properly and safely is essential to preventing food borne illness.

- .

The importance of following proper safe food handling procedures

From the time the chocolate is delivered to the minute it is served to the customer, chocolate safety should be at the top of the list. pastry business operators in particular should bear in mind that they are required by law, to ensure that any of their staff who handle food receive appropriate training in hygiene matters that are in line with their work activity.

- **Procedure handling**
  - Preparing chocolate in a safe manner.
  - Coat in a safe manner
  - Stopping the spread of bacteria through cross contamination
  - Routines to follow and habits to avoid.
  - Presenting in a hygienic and appetizing way
- **The handling of chocolate can take place during;**

- Processing
- Cooling
- Hot holding
- Preparation
- Purchase
- Receipt
- Re-heating
- Serving
- Storage
- General safe food handling tips:

Self-check 2	Written test

Name…… ID…… Date…….

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

Test 1true or false (4point)

1 de-molded chocolates It's not recommended to store in there refrigerator

Test 1 give short answer(12point)

1 Define the meaning of de-moulding?

. 2 lists the handling of chocolate can take place during?

3 which storage area is confortable for the confectioner processing?

Note: satisfactory rating (-≥ 6point) ***Unsatisfactory-below6point***

You can ask your teachers for the copy of the correct answer

Answer sheet

Name _____ *score=*_____

Rate

Operation sheet 1	safe food handling procedures

Procedure

Step 1: wear PPE

Step 3 Preparing chocolate in safe manner.

Step 4 Coat in a safe manner

Step 5 stopping the spread of bacteria through cross contamination

Step 6 Routines to follow and habits to avoid.

Step 7 Presenting in a hygienic and appetizing way

Step 8 Presenting in a hygienic and appetizing way

Step 9 present properly

LAP TEST	Performance Test

Name……. ID……..

Date…….

Time started: _____ Time finished: _____

Instructions: Given necessary templates, tools and materials you are required to perform the following tasks within **1** hour. The project is expected from each student to do it.

Task- safe food handling procedures

LG #31	LO #5 Coat chocolate confectioner

Instruction sheet

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

- Tempering and manipulating the Coverture
- Bringing coated items to the correct temperature.
- Coating prepared centers using techniques and correct thickness of chocolate
- Executing hand dipping in a logical and accurate manner..
- Decorating and presenting chocolate confectionery.

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:

- Select covertures or coatings
- Temper and setting covertures correctly
- Apply a range of fillings to ensure sealing layer of chocolate
- Handle and storing de-molded chocolates

Information Sheet-1	Tempering and manipulating the coverture

1.1 Tempering and manipulating the coverture

Tempering chocolate is an essential step for making smooth, glossy, evenly colored coating for your dipped chocolates. Tempering prevents the dull grayish color and waxy texture that happens when the cocoa fat separates out. Tempered chocolate produces a crisp, satisfying snap when you bite into it tempering is a process of heat treating, which is used to increase the toughness of iron-based alloys. Tempering is usually performed after hardening, to reduce some of the excess hardness, and is done by heating the metal to some temperature below the critical point for a certain period of time, then allowing it to cool in still air. The exact temperature determines the amount of hardness removed, and depends on both the specific composition of the alloy and on the desired properties in the finished product. For instance, very hard tools are often tempered at low temperatures, while springs are tempered at much higher temperatures.

The manipulate coverture is added back to the warmed portion and is now stirring the coverture until smooth. Stirring the coverture aim at distributes the seed crystals without in comporting aim in to the chocolate and render it foamy

Tempering is a low temperature heat treatment process normally performed after a hardening process in order to reach a desired hardness toughness ratio.

Portion is important in the confectioner. The final product of chocolate divided in to piece and seal in appropriate packaging plastics. For this purpose clean and dry sealing items

If-check 2	Written test

Name…… ID…… Date…….

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

Test 1 Give short answer(6point)

1 discus the role of tempering in chocolate preparation

Note: satisfactory rating-(≥3point) ***Unsatisfactory-below (3point)***

You can ask your teachers for the copy of the correct answer

Answer sheet

Name _____ score=_____

Rate

Information Sheet-2	Coating items to the correct temperature

1.1 Coating items to the correct temperature

Coating is a covering that is applied to the surface of an object, usually .The purpose of applying the coating may be decorative coating items kept or stored in appropriate temperature or condition Store candy melts in a cool, dry location material which may be chocolate, or a water-based material such as creamy mixes, non-aerated ice cream mixes, sorbets, water ices or fruit purees. Coating having a marbled appearance, a confectionery product provided with a coating having a marbled appearance and methods of preparing the same, the coating may be chocolate or water-based. Keep candy coatings away from water. Water will cause coatings to seize.. Confectionery coatings and chocolates will absorb odors. So, don't store your chocolate next to your onions, unless you want savory onion chocolates! Candy Coatings have a shelf-life of three months from time of purchase. If you would like to thin your candy melts- after melting, add paramount crystals (1teaspoon to 1 LB of candy coatings should be enough).

- **Items of coating**
  - Jam
  - Cream
  - Jell
  - Syrup
  - Cocoa butter
  - nut
- Method of coat center

1 hand co

2 hand dipping

3 machines enrobed

This coating item needs to be kept at a consistent temperature so there may be a need to us What is referred to as a static temperature chocolate warm These are simply a „dry" bain marie that will hold the chocolate at a temperature of approximately 32°C after it has been tempered Decorating to chocolates can be applied after they have been dipped or enrobed. If the decoration is wet like another color chocolate it can be applied after the chocolate has set firm. The second chocolate applied with small piping bag. If the decoration is dry it must be applied while the coating chocolate is wet so it will bind to the setting chocolate.

1.2.1 Suitable for coating

Roasted nuts

All nuts should be roasted as it has a better flavor and cooks the oil present in the nut. Care must be taken not to burn the nuts as this will make them bitter.

These nuts should be cut in half or smaller pieces.

Cut into small pieces these can be placed on top.

1.2 Roasted Chili powder

Any spices should be treated with some high heat to reduce bacterial activity and impart and improved flavor

What are the different types of coating?

Common roll-to-roll coating processes include**:**

- Air knife coating.
- Anilox coater.
- Flexo coater.
- Gap Coating. Knife-over-roll coating.
- Gravure coating.

- Hot melt coating- when the necessary coating viscosity is achieved by temperature rather than solution of the polymers etc ...
- Immersion dips coating..

The factors to consider when selecting a protective **c**oating for a given application include: the type of substrate, the application technology, the conditions under which the coating must perform, the cure time, the desired film thickness and the performance requirements (adhesion, appearance, and mechanical)

- **Coating Materials**

- brush
- beater
- blender
- chopping board

Self-check 2	Written test

Name…… ID…… Date…….

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

Test1 Matching (10point)

__1 coating materials

__ 2 Common roll-to-roll coating processes

__3 suitable coating

A blender

B gap coat

C Roasting nut

D flour

Note: satisfactory rating-(≥5point) ***Unsatisfactory-below (5point)***

You can ask your teachers for the copy of the correct answer

Answer sheet

Name _____ score=_____

Rate

Information Sheet-3	Preparing centers using techniques and correct thickness

3.1 Preparing center

Center filled bars of confectionery are made by making successive deposits of shell and filling materials into adjoining cavities of moulds moved in succession beneath coaxial depositing nozzles. The cavities in each mould are separated by webs over which shell material overflows so that successive deposits join together to form in each mould a bar having a flat base Prepare the chocolate shell fill in to the center according to recipe if you are painting detail in to the mold with colored white chocolate or color cocoa butter, make sure the colored chocolate or cocoa butter has set hardened before you begin the step below

Cut all the slabs out of the holding frame and remove the top layer of plastic or paper

When the Coverture chocolate has set, place a cutting board on top and flip it over. Remove the plastic or paper cut the marzipan and walnut fudge into rectangles, 2 x3cm pieces center.

Fig1chocola battering

Self-check 2	Written test

Name…… ID…… Date…….

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

Test 1 Give short answer(10point)

1 how to adjust thickens**?**

Note: satisfactory rating- (≥5point) ***Unsatisfactory-below 5 point***

You can ask your teachers for the copy of the correct answer

Answer sheet

Name _____ score=_____

Rate

Information Sheet-4	Executing hand dipping in a logical and accurate manner

4.1 Executing hand dipping

Hand dipping chocolate is easier if you use one hand for dipping usually your dominant hand the different results both techniques produce. What should you take to heart when making enrobed or hand-dipped chocolates? Choose the right fluidity: three drops for a chocolate shell of average thickness, four drops for a thin and crunchy chocolate shell. For hand-dipping, use a deep, well-filled bowl of tempered chocolate so it maintains a constant temperature for as long as possible and won't over crystallize.

Use a clean dipping fork to make sure that you can place the chocolates onto your plastic quite easily. Only use fillings with a firm, stiff texture covered with a thin but hard layer of chocolate in order to avoid skewing while dipping. Make sure that the temperature of the fillings isn't too cold. Keeping them at room temperature is ideal.

There are two method of hand dipping

1 Pulling method

2 Turning method

- The pulling technique, for a thin layer of chocolate are

Step 1

Are you right-handed? Then place the fillings on the far left, the container with the tempered chocolate in the middle and the plastic to slide the pralines on to the right. If you are left-handed, then do the reverse.

Step 2

Quickly push the filling into the tempered chocolate until the top of it is level with the chocolate surface.

Step 3

Pull a thing layer of chocolate over the filling with the dipping fork.

Step 4

Lift the filling up with the dipping fork. Make sure that about 1/3 of it extends over the top of the fork.

Step 5

Tap the filling repeatedly against the surface of the chocolate in the container. This pulls off all excess chocolate and creates a perfectly thin layer.

Step 6

Clean the bottom of the fork against the edge of the container.

Step 7

Place the filling with the front side onto the plastic.

Step 8

Gently pull the fork from under the filling.

Step 9

Before you completely withdraw the fork, gently push the praline forward a little bit. This way you'll avoid creating a 'foot' (a little puddle of excess chocolate at the bottom of your dipped chocolate) under the praline.

- **The turning technique, for a thicker layer of chocolate**

Step 1

Quickly push the filling into the tempered chocolate until the top of it is level with the chocolate surface.

Step 2

Press down on one side of the filling with the dipping fork to make it turn around in the chocolate.

Step 3

Lift the filling up with the dipping fork. Make sure that about 1/3 of it extends over the top of the fork.

Step 4

Tap the filling repeatedly against the surface of the chocolate in the container. This pulls off all excess chocolate and creates a perfectly thin layer.

Step 5

Clean the bottom of the fork against the edge of the container.

Step 6

Place the filling with the front side onto the plastic.

Step 7

Gently pull the fork from under the filling.

Step 8

Before you completely withdraw the fork, gently push the praline forward a little bit. This way you'll avoid creating a 'foot' (a little puddle of excess chocolate at the bottom of your dipped chocolate) under the praline.

4.2 Tips for cooling

Finished dipping? Then don't place the pralines into the refrigerator straight away, but let them set at room temperature (18 to 20°C) for a few minutes until the chocolate is dry to the touch. Putting them immediately in the refrigerator would cool them too quickly, which would make the chocolate turn greyish. Don't put them too closely together on the plastic either; otherwise the heat remains trapped between them, which would make the sides of the chocolates turn greyish as well. After a few minutes of hardening, place the chocolates in the refrigerator between 18 and 20°C for about 30 minutes to let them crystallize completely.

Have you dipped your fillings in imitation chocolate? Then put the pralines into the fridge as quickly as possible. Don't wait until you have finished dipping all your fillings.

As soon as you have a small quantity ready: cool them! The temperature shock this causes is necessary to maintain the gloss of the coating.

All chocolate types with basic three-drop fluidity are right about perfect. Their fluidity is designed to fit a wide range of techniques and applications, including dipping and enrobing fillings.

White chocolate with basic three-drop fluidity on the other hand is a bit too fluid. For a medium thick white chocolate shell it's better to pick a recipe with 2% to 3% lower cocoa butter content. You can recognize these recipes by the letter B or C directly in front of the chocolate's recipe number.

- **For a fine chocolate shell**:

Some chocolate lovers and craftsmen want the chocolate shell of their enrobed or hand-dipped chocolates to be as fine and crunchy as possible. A more fluid chocolate with 2% to 4% higher cocoa butter content is absolutely perfect for this. You can easily recognize these types of chocolate by the four-drop symbol indicated on their packaging, or the number 2, 3 or 4 directly in front of the chocolate's recipe number.

Self-check 2	Written test

Name…… ID…… Date…….

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

Test2 File the black space (10point)

1 Define hand dipping?

2 List the dipping method?

_____

Note: satisfactory rating-(≥ 5point) ***Unsatisfactory-below 5point***

You can ask your teachers for the copy of the correct answer

Answer sheet

Name _____ *score=*_____

Rate

Information Sheet-5	Decorating and presenting chocolate confectionery

5.1 Decorating and presenting chocolate confectionery

Decorating is one of the sugar arts that use icing or frosting and other edible decorative elements to make plain chocolate more visually interesting. Alternatively, chocolate can be molded and sculpted to resemble three-dimensional persons, places and things. Decoration is very importance increase the eye apple presenting chocolate decoration and product properly

- **Decorating technique**
  - Pressed flower.
  - Piped side..
  - Butter cream...
  - Spatula spread...
  - Sheet..

Fig.1 techniques of decorate

Decorations should be suited to the texture of the cake, so that the customer can experience something creamy, something crispy or crunchy and something fruity

Fig.2 chocolate decorating

Consistency of design

When decorating certain considerations need to be taken account:

- Symmetry
- Consistency in size of decorations
- Balance across the product.

Self-check 2	Written test

Name…… ID…… Date…….

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

Test 1 choose the best answer (6point)

1 which of the following is Consistency of design chocolate?

A texture B Symmetry C consistency D none

Test 2 File the black space (10point)

1 How to pipe the chocolate mixture?

2 How to decorate the chocolate?

3 list decoration technique

_____

_____

_____

Note: satisfactory rating- (≥6point) ***Unsatisfactory-below 6point***

You can ask your teachers for the copy of the correct answer

Answer sheet

Name _____ *score=*_____

Rate

LG #31	LO 6 Store chocolate and chocolate confectioner

Instruction sheet

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

- Storing chocolate and chocolate confectionery
- Protecting chocolate and chocolate confectionery

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:

- Store chocolate and chocolate confectionery
- Protect chocolate and chocolate confectionery

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
4. Accomplish the Self-checks
5. Perform Operation Sheets
6. Do the “LAP test”

Information Sheet-1	**Storing chocolate and chocolate confectionery**.

1.1 Storing chocolate and chocolate confectionery

The most ideal place to store chocolate would be somewhere that is cool, dry and dark, such as a cupboard or plenty. chocolate needs to stay so somewhere where the temperature is consistent, there is minimal moisture in the air and where it can avoid long exposure to light .controlled temperature chocolate keep best at a temperature of between (65 -68f)about(18- 20c)and with a humidity of less than 55%.Good quality chocolate should be fresh. Storage temperature: 15-18°C. Expert preparation of chocolate begins with proper storage. Large variations of temperature affect the fine chocolate aroma and create condensation. Therefore, protect your chocolate from temperature changes, light, foreign odors, warmth and humidity.

When chocolate arrives at the processing area (kitchen etc.) from its storage area, the difference in temperature must not exceed 6-7°C. Sudden changes in temperature can cause moisture to form on surface of chocolate mass. Chocolate should always be kept wrapped in the paper in which it arrived from the manufacturer when kept the chocolate remove the moisture and dry, clean the area.

Tips for Storing Your Chocolate

- **DON'T REFRIGERATE!** Chocolate easily absorbs odors of whatever's in the refrigerator cheese, — you get the idea). Moisture in the fridge can also lead to "sugar bloom," meaning the sugar rises to the surface and discolors the chocolate (which has no effect on flavor, but doesn't look too appealing). So instead of the fridge:

- **Store it in a cool, dry place.** When chocolate is kept at a consistent temperature below 70°F (ideally between 65 and 68°F), and at a humidity of less than 55%, the emulsion of cocoa solids and cocoa butter will stay stable for months.

- **But even in a cool, dry place:** Remember that cocoa butter (the vegetable fat in chocolate) picks up the smell of whatever's around it. So unless you want your bonbons and bars to taste like vanilla extract or garlic powder, follow the next rule:

- **Seal them in an air-tight container.** Oxygen does just what you'd expect it to — it oxidizes chocolate, which causes less-than-ideal flavors to develop. And although chocolates are not known to be a favorite food of vampires...

- **Keep them away from the light!** Not just sunlight (unless you want to **make fondue**), but also artificial light. They both cast the same kind of bad-flavor spell as oxygen does.

f

Fig1 storage rack

Self-check 2	Written test

Name…… ID…… Date…….

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

1 Test true or false(10point)

1 Appearance is affected by how it is processed and how long it is stored and the condition in which it is stored.

2 when the chocolate stored in moisture area

Note: satisfactory rating-(≥5 point) ***Unsatisfactory-below(5point)***

You can ask your teachers for the copy of the correct answer

Answer sheet

Name _____ *score=*_____

Information Sheet-2	Protecting chocolate and chocolate confectionery

2.1 Protecting chocolate and chocolate confectionery

To protect chocolate properly comes down to three basic elements: temperature, light, and time. Protecting is to cover or shield from exposure, injury, damage, or destruction: guard. Defend sense protect the goal. Protection chocolate is importance without measure taken to ingredient the preparation against damage caused by measuring ingredient so control measurement. Protection can be provided when preparing chocolate:

- Preparing chocolate in a safe manner
- Serving chocolate in a safe manner
- Stopping the spread of bacteria through cross contamination
- Routines to follow and habits to avoid.
- Presenting chocolate in a hygienic and appetizing way.

Fig.1 filled chocolate

Control the temperature of chocolate extremely important in ensuring that chocolate is safe to eat and you must ensure the food is always cooked cooled, chilled or reheated properly to minimize the risk of harmful level of bacteria in the food that you sell

2.1.1 Techniques protection and condition of producing chocolate

- Chilling ingredient and work surface where required
- Kneading and molding resting
- Prepare and using appropriate filling and pre-bake and post-bake finishing and decorate
- Store chocolate at cool temperatures.
- Store chocolate bars and chips in a cool, dry place away from excessive he
- Keep chocolate away from light and air. ...
- Seal them in an air tight container

The best time to eat chocolate

- Breakfast,
- Lunch,
- During periods,
- Before a workout,

Temperature and time, light is important in confectionery and other preparation

Self-check 2	Written test

Name…… ID…… Date…….

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

Tast1 Give short answer

1 defines the protection?(3point)

Test 2 true or false

1 From the given choose which one is best time to eat chocolate

A consistence B Color C Breakfast D All

Note: satisfactory rating-(≥4point) Unsatisfactory-below 4ponit

You can ask your teachers for the copy of the correct answer

Answer sheet

Name _____ *score=*_____

Rate

Operation sheet 1	Techniques of protection

Procedure

- Chilling ingredient and work surface where required
- Kneading and molding resting
- Prepare and using appropriate filling and pre-bake and post-bake finishing and decorate
- Store chocolate at cool temperatures.
- Store chocolate bars and chips in a cool, dry place away from excessive he
- Keep chocolate away from light and air. ...
- Seal them in an air tight container

LAP TEST	Performance Test

Name……. ID……..

Date…….

Time started: _____ Time finished: _____

Instructions: Given necessary templates, tools and materials you are required to perform the following tasks within **1** hour. The project is expected from each student to do it.

Task1- Techniques of protection

CONFECTIONERY TERMS

1. **Aeration** : The treatment of dough or batter by charging with gas to produce a volume increase.

2. Albumen: White part of egg.

3. Almond Paste : Almonds ground to paste with sugar used for the different icings.

4. Ash: The incombustible residue left after burning matter.

5. Bake : To cook or roast by dry heat in a closed chamber such as an oven.

6. Baking Powder : A chemical leavening agent composed of soda, dry acids, and corn starch used as chemical leavened .

7. Bars: Sweet biscuits made in oblong or rectangular shape can have chocolate covering.

8. Batter : A homogeneous mixture of ingredients with liquid to make a mass that is of a soft plastic character .

REFERANCE

Greweling, Peter; 2006; *Chocolates and Confections*; John Wiley and Sons ISBN: 978-07645-8844-0

Curry, William; 2011 *Couture Chocolate*; Penguin Group

Bennion Bamford and Stewart; *1966 - Cake Making* Chapter on Chocolate

Beranbaum, Rose Levy: 2009; *Rose's Heavenly Cakes*; Houghton Mifflin Harcourt;

Boyle, Tish; 2006; *the Cake Book*; Houghton Mifflin Harcourt

Bennion Bamford and Stewart; *20011Cake Making* – Chapter on Chocolate

AKNOWLEDGEMENT

We wish to extend thanks and appreciation to the many representatives of TVET instructors and respective industry experts who donated their time and expertise to the development of this TTLM

We would like also to express our appreciation to the TVET instructors and respective Regional TVET Bureau, TVET College/ Institutes, UNESCO Project (best education for African rise (BEAR)) and Federal Technical and Vocational Education and Training Agency (FTVET) who made the development of this TTLM with required standards and quality possible.

This TTLM was developed on September 2020 at Bishoftu, Federal management institute ETHIOPIA

The trainers who developed the TTLM

No	Name	Qualification	Educational background	Region	E-mail
1	Teshale Besufikad	B	Food science and post-Harvest Technology	Hawasa	teshu44@gmail.com
2	Memiru Michael	B	Food Process Engineering	A.A	Lijelshaday@gmail.com
3	Zerfu Negash	B	Hotel mgmt.	Oromia	nzerfu@gmail.com
4	Meseret Niguse	B	Hotel & Tourism mgt	Oromia	mimimesi@gmail.com
5	Cheru petros	B	Food technology and process engineering	SNNPR	Chupeter143@gmail.com
6	Zelalem Taye	A	Leadership and Management	Amhara TVEDB/coordinator	Tayezelalem22”gmail.com