Cereal processing

Level-III

Based on October 2019, Occupational standards Version 2

Module Title: Prepare Plated Sweets and Desserts

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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 purpose and desired effect for sweets and desserts
- Confirming product parameters
- Identifying and considering cultural influences on product type and production techniques
- Selecting recipe and measuring and weighing ingredients
- Determining required cooking methods and preparing equipment

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 purpose and desired effect for sweets and desserts
- Confirm product parameters
- Identify and considering cultural influences on product type and production techniques
- Select recipe and measure and weigh ingredients
- Determine required cooking methods and preparing equipment

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- Confirming Purpose and desired effect for sweets and desserts

Introduction

Desserts is a course that concludes a meal. It contains foods such as confection dishes or fruits, and a beverage like wine or liqueur. It may include coffee, cheese, nuts and other savoury delicacies that are prepared with utmost perfection.

Sweets and desserts are both delicious in their own right but one should be aware of how much they are consuming these confectioneries. Sweeties due to their sugar content, are one of the root causes of tooth decay and diabetic people often have restrictions for consuming dessert items as they increase sugar content in your blood.

During production of sweet dessert the following point should be recognized as quality factors:

I. Smoothness is related to the size of the ice crystals in the product. Ice cream should be frozen rapidly and churned well during freezing so large crystals don't have a chance to form. Rapid hardening helps keep crystals small, as do eggs and emulsifiers or stabilizers added to the mix. Large crystals may form if ice cream is not stored at a low-enough temperature (below 0°F/–18°C).

II. Overrun is the increase in volume due to incorporation of air when freezing ice cream. It is expressed as a percentage of the original volume of the mix. For example, if the mixture doubles in volume, then the amount of increase is equal to the original volume, and the overrun is 100%.Some overrun is necessary to give a smooth, light texture. If ice cream has too much overrun, it is airy and foamy and lacks flavor. It was once thought that ice cream should Customers love desserts, but not all customers will order them. In most restaurants, perhaps 50% of the customers, at most, will have dessert.

III. Mouth feel, or body, depends, in part, on smoothness and overrun, as well as other qualities. Good ice cream melts in the mouth to a smooth, not too heavy liquid. Some ice creams have so many stabilizers they never melt to a liquid.

Unfortunately, many people are so accustomed to these products that an ice cream that actually does melt in the mouth strikes them as “not rich enough.” Butter fat from cream contributes to a rich mouth feel. However, too high a fat content can detract from the texture. This is because, when fat content is especially high, some of the fat may congeal into tiny lumps of butter during churn-freezing, producing a grainy texture. A good gelato has a light, smooth mouth feel, attributable to low fat con-tent and lack of emulsifiers, combined with low overrun.

A majority of diners are simply too full to order a traditional full, large dessert, but they would welcome something a little sweet or something to share. Most customers who don’t order dessert might be interested if something light, refreshing, and intriguing were offered. Therefore, when planning for variety, don’t forget to include simpler, lighter options that will appeal to diners with smaller appetites.

Having a cheese platter or perhaps a savory dessert are popular options too much overrun, it is airy and foamy and lacks flavor. It was once thought that ice cream should have from 80 to 100% overrun, and that less would make it heavy and pasty. This may be true for ice creams containing gums and other stabilizers, but some high-quality manufacturers produce rich (and expensive) ice cream with as little as 20% overrun. Overrun is affected by many factors, including the type of freezing equipment, the length of churning time, the fat content of the mix, the percentage of solids in the mix, and how full the freezer is.

There are two stages to the art of the baker or pastry chef: first, making and baking all the doughs, batters, fillings, creams, and sauces (with the correct techniques); and second, assembling these components into finished desserts and pastries. The same principle is applied to plating dessert presentations. A plated dessert is an arrangement of one or more components. For most desserts, all the components are prepared well in advance.

All the components needed including mousses, meringues, ice creams and sorbets, cookies, dough, cake layers, pastry cream, and dessert sauces are used to make a presentation that is more than the sum of its parts.

When planning for a plated dessert, there are five characteristics that should be considered. Three apply to mouth feel and flavour, and are the most important:

- Flavour
- Texture
- Temperature

The other two are visual:

- Colour
- Shape

Flavours should enhance or complement each other, such as a caramel sauce served with roasted fruit, or offer a pleasing contrast, as a tart flavour (lemon) paired with a sauce that is sweetened. To achieve this, taste the components separately and then together to evaluate and make sure they work together.

Plan for pleasing combinations of texture and temperature. If the main item is soft, such as a mousse or ice cream, add a crisp or crunchy component such as small cookies or nuts for a texture contrast. Temperature contrasts are also pleasing, such as a scoop of ice cream with a warm fruit tart.

Visually, a variety of colours and shapes can be attractive, but be careful not to include too much or the result will come across as a jumble. The plate needs to be visually appealing. Through the balanced use of colour and shape, you can present a dessert simply and elegantly. Let the food speak for itself. Brown is a good colour, and a well-prepared dessert with a few shades of brown can look very appealing. A traditional tarte tatin, for example, needs little or no garnish to make it look appealing if the apples have been caramelized properly.

All of these elements together create a palette from which an infinite number of combinations affect you differently whenever you put food on your table. Chefs and, now more than ever, pastry chefs are always trying to push the senses to the limits in never-before-thought-of ways, but the underlying principles that make food taste good are unchanged. Here is a short summary:

- Variety and diversity in textures and the elements of taste make for interesting food; avoid monotony.
- Contrast is as important as harmony, but avoid extremes and imbalance.
- Food that comes from the same place (time/season or location) usually works together.
- Fresh and ripe rules every time.

Self-check 1	**Written test**

Name…… ID…… Date…….

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

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

Short answer 4 pts. For each

1. Define dessert
2. Define sweet
3. List quality factor of sweet

Note: **Satisfactory rating 12 points**	**Unsatisfactory below 12 points**

Information Sheet 2- Confirming product parameters

When deciding processing the plate, the following five characteristics of each component of the dessert to be considered. The first three of these characteristics are related to taste and mouth feel and are the most important:

- Flavor
- Texture
- Temperature

The other two are visual elements:

- Color
- Shape

Flavors should enhance or complement each other, such as a caramel sauce with a caramelized fruit gratin, or offer a pleasing contrast, such as a soothing crème anglaise with a slightly tart fruit. To ensure you achieve this, taste the components alone and then together to evaluate the flavors and make sure they work as a combination. Look for pleasing varieties of texture and temperature. If the main item is soft, such as a mousse or ice cream, add a crisp or crunchy item such as small cookies or caramelized nuts, for texture contrast. Temperature contrasts are also pleasing, such as a spoonful of ice cream with a warm fruit tart.

Brown is a good color, too, and a well-prepared dessert in a few shades of brown can look very appetizing. A lusciously caramelized tarte tatin, for example, needs little or no garnish to make it appealing. Shapes, too, can be varied in many ways, such as by using different shapes of molds for molded desserts, different cutters for cakes and similar items, and a variety of stencils for tuile garnishes. In addition, plates in various shapes can enhance the overall presentation of desserts.

The interior temperature has risen to the desired degree.

Interior temperature is the most important factor when we are cooking tender food. The difference between rare, medium, and well done is a difference in temperature, and we can measure this doneness with a thermometer. Interior temperature is also important for food safety, as we learned in the discussion of minimum internal cooking temperatures

The desired changes have taken place in the food. These changes include gelatinization of starches, coagulation of proteins, breaking down of connective tissues, caramelization of sugars, and Maillard browning. In many foods, creating these changes is more important than simply heating the interior to a desired temperature. For example, the inside of a small piece of bread quickly becomes just as hot as the liquid in which it is simmering.

However, we don't say it is "done" until enough connective tissue has broken down so it has a tender texture. It's not enough just to heat it to the desired degree. Similarly, the inside of a strand of spaghetti quickly rises to the temperature of boiling water, but it is not done until enough starch has absorbed water and gelatinized, so it has the desired texture. Standards of doneness are different for every type of food and for every cooking method.

1. **Cooking temperature.**

This means the temperature of the air in the oven, the fat in the fryer, the surface of a griddle, or the liquid in which a food is cooking.

2. **The speed of heat transfer.**

Different cooking methods transfer heat at different rates, as shown by these examples: Air is a poor conductor of heat, while steam is much more efficient. A jet of steam (212°F/100°C) will easily burn your hand, but you can safely reach into an oven at500°F (260°C). This is why it takes longer to bake potatoes than to steam them. A convection oven cooks faster than a conventional oven, even if both are set at the same temperature. The forced air movement transfers heat more rapidly.

3. **Size, temperature, and individual characteristics of the food.**

Small food roast cooks faster than a large one. A chilled steak takes longer to broil than one at room temperature. Because there are so many variables, it is difficult or even impossible to determine exact cooking times in most recipes. Individual ovens, fryers, and steamers, for example, may transfer heat more or less efficiently or have different recovery times.

Self-check 2	Written test

Name…… ID…… Date…….

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

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

Short answer

1. Write and explain cooking parameter

Note: **Satisfactory rating 5 points**	**Unsatisfactory below 5 points**

Information Sheet 3-Identifying and considering cultural influences on product type and production techniques

3.1. Introduction

Desserts represent a developing and innovative category worldwide, with an already wide and growing range of value added dessert products. This places high demands on your production and product innovation. Based on our specialized food production and technology expertise, our optimal production solutions meet your needs, with competitive and guaranteed performance, and enable you to meet growing retailer and consumer demands for high quality, healthy and low-calorie products.

In the sixteenth century, "dessert" was glorified Tupperware that you wouldn't want to eat. Pastry was more something that had a practical function as a crust, or sometimes even to enclose other food to create a kind of Tupperware situation" It was used as a preservative. It probably tasted okay, but it wasn't something you would want to eat on its own." In fact, dessert wasn't really a thing until the seventeenth century. This transition towards making and appreciating sweet desserts was partly due to the cultivation of New World plantations, which lowered the price of sugar, allowing it to become a main ingredient, not just a spice that brought out the savoriness of a dish or preserved it.

3.2. Ancient trends of dessert food

- Desserts were served in the middle of the meal.
- At Versailles, out-of-season fruit was all the rage.
- Sugar was understood as a medium for sculpting art, similar to porcelain and bronze, more than it was as an ingredient for making sweets.

3.3. Growing trends in dessert production

- Wholesome desserts that contain more fruit, less fat and fewer additives – enabling healthy snack alternatives
- Targeted offerings to specific consumer groups, such as children or athletes
- Ready-to-eat desserts for on-the-go consumption

- High quality desserts that taste natural and homemade
- Growing demands for greater variety and premium brands

Product examples: puddings & custards, rice-based desserts, bakery fillings, mousse, jellies, compotes, sauces and aerated desserts.

3.4. Cultural influences

First, what sweet food is produced and traded depends on what is classified as food. Culturally transmitted classifications of available sources of nutrition as food and non-food determine what potential foods are included in the regular diet and thereby influence the composition of local food production, sales, and trade.

Second, culture shapes how sweet food is produced. A growing body of research has analysed the impact of traditional food production systems and the knowledge embedded there in on food availability.

Culture also affects individual access to food through intra-household food distribution. In general, how food is distributed within the household depends on the nutritional and cultural value of different types of foods on the one hand, and the ‘needs’ or ‘contributions’ of household members.

Cultural models of eating also specify how, when and where one should eat and what constitutes a ‘proper’ meal. By shaping meal and eating patterns, such models have an important effect on what food is accessible and what food we choose to eat

Self-check 3	**Written test**

Name…… ID…… Date…….

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

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

Short answer 5 point for each

Explain detail about:

1. Ancient trends of dessert food
2. Growing trends in dessert production
3. Cultural influences

Note: **Satisfactory rating 15 points**	**Unsatisfactory below 15 points**

Information Sheet 4- Selecting recipe and measuring and weighing ingredients

4.1 Weighing and/or measuring ingredients

Baking is a science. It relies on chemical reactions happening between your ingredients. Unfortunately, this means that you can't simply mix up a dollop of this, a pinch of that, a handful of flour and a few eggs, and expect to get the perfect chewy chocolate chip cookie. Baking doesn't work like that (unless you have years and years of experience making your favorite cake recipe). For example, if you add too much butter or not enough flour, your cookies will spread. If you add too much baking powder, your cakes will taste funny, and will rise rapidly and then sink in the middle.

The success in food preparation depends on using the correct amount of ingredients as stated on the recipe. The only way to get the correct amount is by measuring or weighing each ingredient.

Equipment to measure volume includes:

- Measuring spoons
- Dry measuring containers
- Liquid measuring containers
- Scales

4.2 Types of measuring scales

A scale or balance is a device to measure weight or mass. These are also known as mass scales, weight scales, mass balances, weight balances.

i. Traditional scales

- May also be called portion or pound scales.
- Range of capacity is typically 2 to 50 pounds.
- Dials may be fixed (stationary) or adjustable.

- If dial is fixed, place the container on the platform and record the weight of the container before adding ingredients to be weighed.
- If dial is adjustable, place the container on the platform and turn the pointer to 0, then add ingredients until required weight is reached.

ii. Electronic scales

- Need an electric or battery source.
- Range of capacity is typically 10 to 50 pounds.
- The tare button allows you to return the scale to zero weight after placing the container on the scale.
- As an option, place the container on the scale before you turn it on and it will automatically tare to zero.

Self-check 4	**Written test**

Name…… ID…… Date…….

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

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

Short answer 5 pts. For each

1. what is scale
2. write types of weighting method

Note: **Satisfactory rating 10 points**	**Unsatisfactory below 10 points**

Information Sheet 5- Determining required cooking methods and preparing equipment

5.1 Introduction

Cooking is the application of heat to ingredients to transform them via chemical and physical reactions that improve flavor, reduce chances of foodborne illness, and increase nutritional value. Since the primary chemical reactions in cooking are triggered by heat, let's take a look at a chart of the temperatures at which the reactions we've just described begin to occur, along with the temperatures that we commonly used for applying heat to food

5.2 Cooking method

A lot of cooking methods are used in catering and hotel industry. Each is specific and has its advantages and dis advantages. The cookery processes or cooking methods are:

- Boiling
- Poaching
- Stewing
- Braising
- Steaming
- Baking
- Roasting
- Pot roasting
- Grilling
- Shallow Frying
- Deep Frying
- Microwaving

5.2.1 Boiling

Boiling is cooking prepared foods in a liquid (water, bouillon, stock, milk) at boiling point. Food is boiled in two ways:

- Food is placed into boiling liquid, re boiled, then the heat is reduced, so that the liquid boils gently –simmering;
- Food is covered with cold liquid, brought to the boil, then the heat is reduced, so that the food simmers.

Advantages

- Older, tougher joints of meat can be made palatable and digestible
- Appropriate for large-scale cookery
- Economic on fuel
- Nutritious, well flavoured stock is produced
- Labor saving, requires little attention
- Safe and simple
- Maximum colour and nutritive value are retained with green vegetables
    - ✓ But the boiling time must be kept to the minimum

Disadvantages

- Foods can look unattractive
- It can be slow
- Loss of soluble vitamins in the water

5.2.2 Poaching

Poaching is cooking food in the required amount of liquid at just below boiling point.

Methods

- Shallow poaching: foods (fish, chicken) are cooking in the minimum of liquid (water, stock, milk or wine). The liquid is not allowed to boil; it is kept at a temperature close to boiling.
- Deep poaching: foods are cooked in enough water to cover them, brought to the boil and then simmered (eggs) or placed into simmering liquid and cooked gently.

Advantage

- Poached food is easily digestible.

Disadvantages

- Skill is required for poaching food
- It is not a suitable method for many foods

5.2.3 Stewing

Stewing is a long, slow cooking method where food is cut into pieces and cooked in the minimum amount of liquid, water, stock or sauce. The food and the cooking liquid are served together.

All stews have a thickened consistency. Stewed foods may be cooked-in a covered pan on the stove;-in a covered pan in the oven.

Advantages

- Correct slow cooking results and very little evaporation
- Economic on fuel
- Nutrients are conserved
- Tough foods are tenderized
- Economical in labour because the foods can be bulk cooked

Disadvantages

Stewing is a slow cooking method

5.2.4 Braising

Braising is a method of cooking in the oven. The food is cooked in liquid in a covered pan or casserole. It is a combination of stewing and pot roasting.

Methods

- Brown braising: joints and portion cuts of meat are marinaded and may be larded and then sealed quickly by browning on all sides in a hot oven or in a pan on the

stove. Sealing the joints helps retain flavour and nutritive value and gives a nice brown colour. Joints are then placed on a bed of root vegetables in a braising pan, with the liquid and other flavourings, covered with a lid and cooked slowly in the oven.

- White braising: vegetables and sweetbreads are blanched, refreshed and cooked on a bed of root vegetables with white stock in a covered container in the oven.

5.2.5 Steaming

Steaming is cooking prepared foods by steam (moist heat) under varying degrees of pressure.

Methods

- Atmospheric or low pressure steaming: food may be cooked by direct or indirect contact with the steam:-direct: in a steamer or in a pan of boiling water (steak);-indirect between two plates over a pan of boiling water.
- High pressure steaming: in purpose-built equipment which does not allow steam to escape; steam pressure builds up, the temperature increases and cooking time is reduced.

Advantages

- Retention of nutritional value
- Some foods become lighter and easier to digest
- Low pressure steaming reduces the risk of overcooking

Advantages

- Older, tougher joints of meat and poultry can be used
- Maximum flavour and nutritive value are retained
- Variety of presentation and flavour is given to the menu

5.2.6 Baking

Baking is cooking food by dry heat in an oven (the action is modified by steam).

Methods

- Dry baking: during the baking process steam rises from the water content of the food; it combines with the dry heat of the oven to cook the food (cakes, pastry, and baked jacket potatoes).
- Increased humidity baking: during the baking process with some foods (bread) the oven humidity is increased by placing a bowl of water into the oven to increase the water content of the food and to improve eating quality.
- Bain Marie: during the baking process food is placed in a container of water (bain marie) to cook the food more slowly.

Advantages

- A wide range of savoury and sweet foods can be produced.
- Bakery products are appealing to the eye and to the mouth.
- Bulk cooking can be achieved with uniformity of colour and degree of cooking.
- Baking ovens have effective manual or automatic controls
- Straightforward access for loading and removal of items.

Disadvantages

- Requires regular attention
- Expensive energy

5.2.7 Roasting

Roasting is cooking in dry heat in an oven or on a spit with the aid of fat or oil.

Methods

- Placing prepared foods (meat, poultry) on a roosting spit over/in front of radiating heat;

- Placing prepared foods in an oven with:
  - ✓ Dry heat-forced air
  - ✓ Convected heat
  - ✓ Convected heat combined with microwave energy

Advantages

- Good quality meat and poultry is tender when roasted
- Meat juices from the joint are used for gravy
- Use of energy and oven temperature can be controlled
- Cooking can be observed (transparent oven doors)
- Straightforward access, adjustment or removal of items
- Continual basting with meat juices adds to a distinctive flavour

Disadvantages

- Requires regular attention
- Expensive energy

Grilling is a fast method of cooking by radiant heat (also called broiling).

Shallow frying is cooking food in a small quantity of pre-heated fat or oil in a shallow pan or on a flat surface

Deep frying is cooking food in pre-heated deep oil or fat.

Microwave cookery is cooking or reheating food using electromagnetic waves in a microwave oven powered by electricity. Microwaves activate the water molecules or particles of food, causing heat by friction which cooks or reheats the food

5.3 Equipment used for sweet making

5.3.1 Mixer

This is a necessary piece of equipment for pastry making. They are used to combine, beat or whip ingredients. Stand mixers have more power and in addition to performing baking and pastry tasks, many come with attachments that enable them to perform even more tasks such as grinding meat, stuffing sausage, juicing citrus, crushing ice and

making pasta. Most of the stand mixers come with a paddle, whisk, and dough hook for making bread.

Figure 1.mixer

5.3.2 Blender/juicer

A blender is a kitchen and laboratory appliance used to mix, crush, and purée or emulsify food and other substances. A stationary blender consists of a blender container with a rotating metal blade at the bottom, powered by an electric motor that is in the base. Some powerful models can also crush ice and other frozen foods. The newer immersion blender configuration has a motor on top connected by a shaft to a rotating blade at the bottom, which can be used with any container.

Figure 2. Blender

5.3.3 Ice cream maker

A domestic ice cream maker is a machine used to make small quantities of ice cream for personal consumption. ... An ice cream maker has to simultaneously freeze the mixture while churning it so as to aerate the mixture and keep the ice crystals small.

Figure 3. Ice cream maker

5.3.4 Ice maker

An icemaker, ice generator, or ice machine may refer to either a consumer device for making ice, found inside a home freezer; a stand-alone appliance for making ice, or an industrial machine for making ice on a large scale. The term "ice machine" usually refers to the stand-alone appliance.

Figure 4. Ice maker

Self-check 5	**Written test**

Name…… ID…… Date…….

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

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

Matching 4 pts. Each

Part A

1. Grilling
2. Shallow frying
3. Deep frying
4. Microwave

Part B

A. Reheating food using electromagnetic waves in a microwave oven powered by electricity.

B. Fast method of cooking by radiant heat

C. Cooking food in pre-heated deep oil or fat.

D. Cooking food in a small quantity of pre-heated fat or oil in a shallow pan

Short answer 5 pts. Each

1. List techniques of cooking
2. Write the method of Steaming

Note: **Satisfactory rating 22 points**	**Unsatisfactory below 22 points**

LG 27	LO2 - Produce sweets and desserts

Instruction sheet

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

- Preparing sweets and desserts with recipe and quality standards
- Applying cooking methods
- Using appropriate ingredients and techniques to produce hot and cold sauces
- Allocating portions with workplace standards
- Conducting work to minimize waste
- Workplace environmental standards and relevant policies and procedures equipment

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:

- Prepare sweets and desserts with recipe and quality standards
- Apply cooking methods
- Use appropriate ingredients and techniques to produce hot and cold sauces
- Allocate portions with workplace standards
- Conduct work to minimize waste
- Workplace environmental standards and relevant policies and procedures equipment

Learning Instructions:

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Information Sheet 1- Preparing Sweets and desserts according to recipe and quality standards

1.1 Kinds of sweet and dessert

I. Custard

Custard is a thick, rich, creamy sweet or savory dessert, made mixtures of eggs or egg yolks, milk or cream, flavorings (vanilla, nutmeg, etc.) and optionally, sweeteners (sugar, honey). Basic custards are thickened and set by eggs alone. A small amount of starch such as can be found in some recipes; they contain ingredients such as flour, cornstarch, tapioca, and arrow root or potato starch for added thickening power and for adding in for more body, also making them able to endure cooking more foolproof under direct heat.

Custards are prepared in two ways: from gently cooking on the stovetop, called stirred or in the oven, known as baked. The recipes are then cooled and refrigerated to further gel. Custards can be sweet or savory, and range from being the entire dessert: Cheesecake, Flan, Pudding Cake, Pumpkin or Coconut custard pies or Semifreddo or some types of Ice Cream; to being a part of a dessert: Pastry Cream, used when making éclairs and cream puffs, or Citrus Curd, such as lemon curd, when filling a tart, or folding in with whipped cream for a special cake filling and frosting.

Stirred custards have their ingredients heated to a certain temperature, or when a thin film adheres to a metal spoon dipped into the custard. When it's done, it is important to remove the stirred custard from the heat immediately to stop the cooking. Some recipes have you place the bottom of the pot in ice water to quicken the process.

Classic custard made on the stove top without starch is Crème Anglaise, but also includes zabaione that will be eaten as is or become a pie filling in a prebaked crust. They require the use of a double boiler and constant stirring.

II. Pudding

Puddings (pood'ings) are a thick, soft dessert, ranging from sweet to savory, with textures from soft to moderately hard.

They typically containing flour or some other thickener (such as tapioca), milk, eggs.

- Boiled
- Baked
- Steamed and
- Chilled.

The earliest puddings were of cereal, bread crumbs and suet were stuffed in sausage skins, enclosed in a pastry and baked. Today, puddings serve as a main dish, such as corn pudding or as a dessert as in chocolate pudding, snacks or treats for special occasions.

III. Sorbet, ice-cream, bombe and parfait

A basic sorbet mixture is simply a sugar syrup mixed with flavoring ingredients. For sorbets, the proportion of sugar in the mix is even more crucial to the texture of the final product than it is for ice cream, because sorbets do not contain the cream or egg yolks that contribute to the smooth texture of ice cream.

Rather, the size of the ice crystals is the most important factor in texture. The sugar content of fruit varies with its ripeness and other factors. Therefore, testing the sugar concentration of sorbet mix is the surest way to achieve proper texture. Sugar concentration can be measured with a hydrometer, also called a saccharometer.

For best freezing, sorbet mixtures should be at a concentration of 30° to 32.5° Brix or 16° to 18° Baume. If the sugar density is too high, dilute with a little water. If it is too low, add a little sugar syrup to increase the sugar content. Rapid freezing produces smaller ice crystals, and thus smoother texture, than slow freezing.

For sorbets as well as for ice creams, chill the mixture well before freezing so it freezes in the shortest possible time. Using a little corn syrup in place of some of the sugar for the syrup may also contribute slightly to smoothness in some sorbets. Classic sorbets,

however, are based on a syrup made only with regular granulated sugar. Using corn syrup in a syrup for sorbets darkens it somewhat, because of increased browning of the sugars and starches in the corn syrup. This may be a dis-advantage for some white or light-colored sorbets.

For granitas, unlike for sorbets, large crystals are characteristic of the product and are de sirable. Classic granitas are made with sorbet like mixes, but with two differences: First, the sugar content is slightly lower, so the ice crystals are larger. Second, rather than being churn-frozen, the mixture is still-frozen in a pan and stirred periodically as it freezes. This freezing method gives granitas their typical icy texture.

- Sorbet is a churned mixture of sugar, water and fruit juice, wine, liquors or other flavorings.
- Stabilizers such as eggs, gums, pectin or gelatin, may be added to help bind water so that the mixture traps air.
- Measuring the sugar content in the mixture with a saccharometer ensures consistent texture and sweetness.
- Sherbet is an Americanization of the French word sorbet.
    - ✓ When it contains fruit juice and sugar it is identical to sorbet.
    - ✓ When milk is added it becomes somewhat richer than sorbet.

IV. Ice cream

Ice cream are custards churned during freezing. High quality ice creams contain as much as 24% milk fat, resulting in rich dense products. Ice cream bases allow a variety of different flavored ice creams to be freshly prepared from one basic preparation. They also come in neutral flavors to allow pastry chefs to add flavoring or fruit purées to customize before churning.

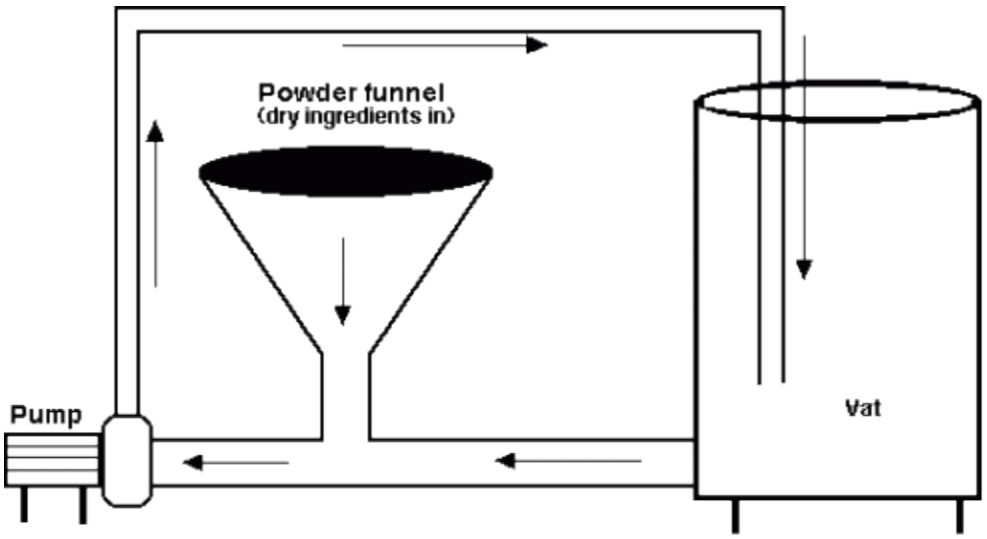
Mixes are formulated for different styles of ice cream, either hard or soft, and different types of machinery, either for batch freezers or continuous-process, soft serve ice cream machines.

The basic steps in the manufacturing of ice cream are generally as follows:

- Blending of the mix ingredients
- Pasteurization
- Homogenization
- Aging the mix
- Freezing
- Packaging
- Hardening

V. Blending

First the ingredients are selected based on the desired formulation and the calculation of the recipe from the formulation and the ingredients chosen, then the ingredients are weighed and blended together to produce what is known as the "ice cream mix". Blending requires rapid agitation to incorporate powders, and often high speed blenders are used.



Simple hopper device for incorporating dry ingredients into recirculating liquids

Figure 5. Ice mixer hopper

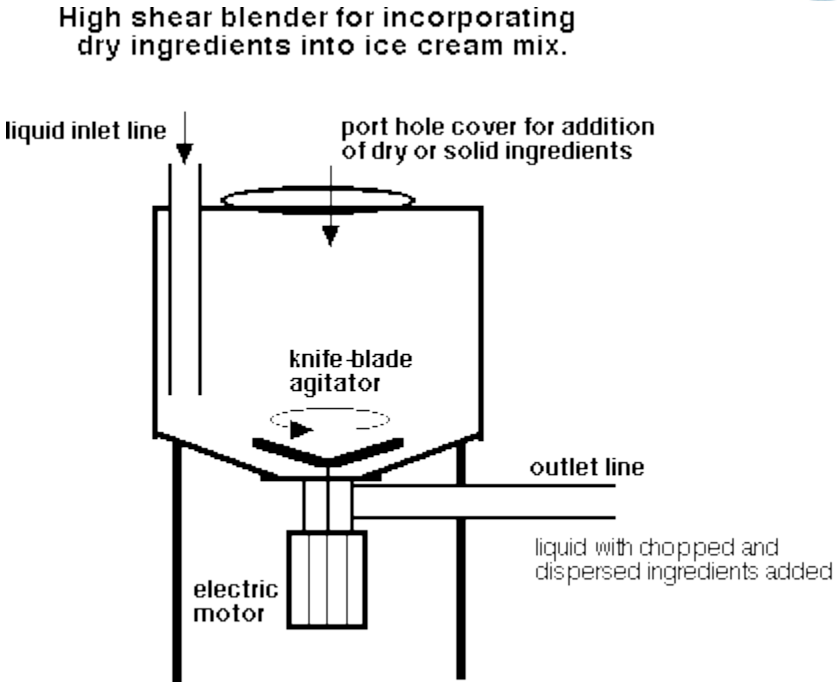


Figure .6 industrial blender

The mix is then pasteurized. Pasteurization is the biological control point in the system, designed for the destruction of pathogenic bacteria. In addition to this very important function, pasteurization also reduces the number of spoilage organisms such as psychrotrophs, and helps to hydrate some of the components (proteins, stabilizers).

Both batch pasteurizers and continuous (HTST) methods are used.

Batch pasteurizers lead to more whey protein denaturation, which some people feel gives a better body to the ice cream. In a batch pasteurization system, blending of the proper ingredient amounts is done in large jacketed vats equipped with some means of heating, usually steam or hot water.

The product is then heated in the vat to at least 69 minutes to satisfy legal requirements for pasteurization, necessary for the destruction of pathogenic bacteria. Various time temperature combinations can be used. Following pasteurization, the mix is homogenized by means of high pressures and then is passed across some type of heat exchanger (plate or double or triple tube) for the purpose of cooling the mix to refrigerated temperatures (4 C).

Batch tanks are usually operated in tandem so that one is holding while the other is being prepared. Automatic timers and valves ensure the proper holding time has been met.

Continuous pasteurization (see schematic diagram for mix to the right) is usually performed in a high temperature short time (HTST) heat exchanger following blending of ingredients in a large, insulated feed tank. Some preheating, to 30 to 40 C, is necessary for solubilization of the components. The HTST system is equipped with a heating section, a cooling section, and a regeneration section. Cooling sections of ice cream mix HTST presses are usually larger than milk HTST presses. Due to the preheating of the mix, regeneration is lost and mix entering the cooling section is still quite warm

Homogenization of Mix

The mix is also homogenized**,** which forms the fat emulsion by breaking down or reducing the size of the fat globules found in milk or cream to less than 1 µ m. Two stage homogenization is usually preferred for ice cream mix. Clumping or clustering of the fat is reduced thereby producing a thinner, more rapidly whipped mix. Melt-down is also improved. Homogenization provides the following functions in ice cream manufacture:

- Reduces size of fat globules
- Increases surface area
- Forms membrane
- Makes possible the use of butter, frozen cream, etc.

By helping to form the fat structure, it also has the following indirect effects:

- Makes a smoother ice cream
- Gives a greater apparent richness and palatability
- Better air stability
- Increases resistance to melting

Homogenization of the mix should take place at the pasteurizing temperature. The high temperature produces more efficient breaking up of the fat globules at any given pressure and also reduces fat clumping and the tendency to thick, heavy bodied mixes. No one pressure can be recommended that will give satisfactory results under all conditions. The higher the fat and total solids in the mix, the lower the pressure should be. If a two stage homogenizer is used, a pressure of 2000 - 2500 psi on the first stage and 500 - 1000 psi on the second stage should be satisfactory under most conditions. Two stage homogenization is usually preferred for ice cream mix. Clumping or clustering of the fat is reduced thereby producing a thinner, more rapidly whipped mix. Melt-down is also improved.

Ageing of Mix

The mix is then aged for at least four hours and usually overnight. This allows time for the fat to cool down and crystallize, and for the proteins and polysaccharides to fully hydrate. Aging provides the following functions:

- Improves whipping qualities of mix and body and texture of ice cream
- providing time for fat crystallization, so the fat can partially coalesce;
- allowing time for full protein and stabilizer hydration and a resulting slight viscosity increase;
- Allowing time for membrane rearrangement and protein/emulsifier interaction, as emulsifiers displace proteins from the fat globule surface, which allows for a reduction in stabilization of the fat globules and enhanced partial coalescence.

Aging is performed in insulated or refrigerated storage tanks, silos, etc. Mix temperature should be maintained as low as possible without freezing, at or below 5 C. An aging time of overnight is likely to give best results under average plant conditions. A "green" or un aged mix is usually quickly detected at the freezer.

Freezing/Whipping of Ice Cream

Following mix processing, the mix is drawn into a flavour tank where any liquid flavours, fruit purees, or colours are added. The mix then enters the dynamic freezing process which both freezes a portion of the water and whips air into the frozen mix. The "barrel" freezer is a scraped-surface, tubular heat exchanger, which is jacketed with a boiling refrigerant such as ammonia. Mix is pumped through this freezer and is drawn off the other end in a matter of 30 seconds, (or 10 to 15 minutes in the case of batch freezers) with about 50% of its water frozen. There are rotating blades inside the barrel that keep the ice scraped off the surface of the freezer and also dashers inside the machine which help to whip the mix and incorporate air.

Ice cream contains a considerable quantity of air, up to half of its volume. This gives the product its characteristic lightness. Without air, ice cream would be similar to a frozen ice cube.

As the ice cream is drawn with about half of its water frozen, particulate matter such as fruits, nuts, candy, cookies, or whatever you like, is added to the semi-frozen slurry which has a consistency similar to soft-serve ice cream**.** In fact, almost the only thing which differentiates hard frozen ice cream from soft-serve, is the fact that soft serve is drawn into cones at this point in the process rather than into packages for subsequent hardening.

VI. Bombe

The bombe is one of the most elegant frozen desserts, often elaborately decorated with fruits, whipped cream, petits fours secs, and other items after unmolding. It is made by lining a chilled mold (usually spherical or dome-shaped) with a layer of ice cream or sherbet and freezing it hard. The center is filled with a bombe mixture of compatible flavor and then frozen again. Mixtures for frozen mousses can also be used to fill bombes, as can regular ice cream or sherbet, but a special bombe mixture is the most common choice.

VII. meringues, crepes and omelette's

Meringues is a type of dessert or candy, often associated with Swiss, French, Polish and Italian cuisines, traditionally made from whipped egg whites and sugar, and occasionally an acidic ingredient such as lemon, vinegar, or cream of tartar. A binding agent such as salt, flour, or gelatin may also be added to the eggs. The key to the formation of a good meringue is the formation of stiff peaks by denaturing the protein ovalbumin (a protein in the egg whites) via mechanical shear. Its flavorants are vanilla, a small amount of apple juice, or orange juice, although if extracts of these are used and are based on an oil infusion, an excess of fat from the oil may inhibit the egg whites from forming a foam

There are several types of meringue: the sweetened, beaten egg whites that form the "islands" of floating island (also known in French as île flottante); the partly cooked toppings of lemon meringue pie and other meringue-topped desserts; and the classic dry featherweight meringue. Different preparation techniques produce these results.

- French meringue, or basic meringue, is the method best known to home cooks. Fine white sugar (caster sugar) is beaten into egg whites.
- Italian meringue is made with boiling sugar syrup, instead of caster sugar. This creates a much more stable soft meringue which can be used in various pastries without collapsing. In an Italian meringue, a hot sugar syrup is whipped into softly whipped

egg whites until stiff, and until the meringue becomes cool. This type of meringue is safe to use without cooking. It will not deflate for a long while and can be either used for decoration on pie, or spread on a sheet or baked Alaska base and baked.

- Swiss meringue is whisked over a bain-marie to warm the egg whites, and then whisked steadily until it cools. This forms a dense, glossy marshmallow-like meringue. It is usually then baked.
- Vegan meringue is imitation meringue made using protein with a small dose of vinegar and caster sugar. It holds similar characteristics to that of egg-based meringue, but it will quickly burn if torched or baked incorrectly. Another variation uses potato protein.

VIII. Bavarians

A Bavarian, also known as Bavarian cream, and by its French name Bavarois (bah vahr WAH), is made of three basic elements:

- Custard sauce or crème (flavored as desired)
- Gelatin is softened in cold liquid, stirred into hot custard sauce until dissolved, and chilled until almost set
- Whipped cream is then folded in, and the mixture is poured into a mold until set.

It is unmolded for service. Accurate measurement of the gelatin is important. If not enough gelatin is used, the dessert will be too soft to hold its shape. If too much is used, the cream will be too firm and rubbery.

Fruit Bavarians can be made like regular custard-based Bavarian creams by adding fruit and flavorings to the custard base. They can also be made without a custard base by adding gelatin to a sweetened fruit purée and then folding in whipped cream. Bavarian creams can be used to make elaborate, elegant desserts. They are the basis for a variety of desserts called cold charlottes, which are Bavarian creams molded in ring molds lined with various sponge cake products. Classic cold charlottes are usually decorated with whipped cream and fresh fruits, and are sometimes served with a fruit coulis

IX. Mousses

There are so many varieties of mousse that it is impossible to give a rule that applies to all of them. In general, we could define a mousse as any soft or creamy dessert made light and fluffy by the addition of whipped cream, beaten egg whites, or both. Note that Bavarians and chiffons fit this description. In fact, they are often served as mousses, but with the gelatin reduced or left out so the mousse is softer.

There are many kinds of bases for mousses. They may be nothing more than melted chocolate or puréed fresh fruit, or they may be more complex, like the bases for chiffons. Some mousses contain both beaten egg whites and whipped cream. When this is the case, most chefs prefer to fold in the egg whites first, even though they may lose some volume. The reason is that if the cream is added first, there is more danger it will be overbeaten and turn to butter during the folding and mixing procedure. If egg whites are folded into a hot base, they will cook or coagulate, making the mousse firmer and more stable. Whipped cream should never be folded into hot mixtures because it will melt and deflate.

X. Soufflés

Soufflés are lightened with beaten egg whites and then baked. Baking causes the soufflé to rise like a cake because the air in the egg foam expands when heated. Toward the end of the baking time the egg whites coagulate, or become firm. However, soufflés are not as stable as cakes; in fact, they fall shortly after they are removed from the oven. For this reason, they should be served immediately.

A standard soufflé consists of three elements:

- Base. Many kinds of bases are used for dessert soufflés; most are heavy, starch-thickened preparations, such as pastry creams or sweetened white sauces. If egg yolks are used, they are added to the base.
- Flavoring ingredients. These are added to the base and mixed in well. Popular flavorings include melted chocolate, lemon, and liqueurs. Small quantities of solid ingredients such as dried candied fruits or finely chopped nuts may also be added.

The base and flavor mixture may be prepared ahead of time and kept refrigerated. Portions can then be scaled to order and mixed with egg whites.

- Egg whites. Whenever possible, egg whites should be whipped with some of the sugar. This makes dessert soufflés more stable. Butter soufflé dishes well and coat them with sugar.

Self-check 1	**Written test**

Name…… ID…… Date…….

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

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

Describe the following kinds of sweet and dessert foods

1. Custard
2. Pudding
3. Bombe
4. Meringues
5. Bavarians
6. Mousses

Note: **Satisfactory rating 12 points**	**Unsatisfactory below 12 points**

Information Sheet 2- Applying cooking methods

Introduction

Baking is a type of dry heat cooking, similar to roasting, that's done in an enclosed space such as an oven, not over a direct flame. Most people think of roasting as something that's done to savory meats and vegetables, while baking usually refers to desserts or savory dishes using flour. Others use both 'baking' and 'roasting' interchangeably. Baking is a way to uniformly heat foods in an enclosed space. For savory foods, it helps to gently cook and tenderize each piece, and keep it moist. It also evenly warms casserole dishes and creates a crispy layer on top if cheese or breadcrumbs are added.

For sweet treats and bread baked goods, baking turns a raw dough or batter into golden products with irresistible contrasting flavors and textures created by the exterior crust and crumbly or chewy centers. Part of the science of baking is understanding the process of what happens to the fats, sugar, proteins, starches, and gasses while in the oven. If something is baked at a low temperature, the process takes place more slowly and evenly throughout the product with less overlap in processes.

Cooking Temperatures for Baked Goods

- 325 to 350°F (163 to 177ºC): Probably the most common range for everyday baking. Temperatures over 300°F are where you begin to see caramelization (browning of sugars) and the Maillard reaction (browning of proteins). Cakes and cookies are also typically baked at 350°F since they have a fair amount of sugar. If baked at a higher temperature, the exterior of the cake could burn before it is fully cooked in the center.
- 375 to 400°F (191 to 204ºC): Shorter-term baking favors a slightly higher temperature to ensure crisp edges to cookies or baked goods using cheese.
- 425° t0 450°F (218 to 232ºC): This is where you'll want to do any short-term baking because the burst of high heat ensures a golden color without having to stay in the oven for too long.

475° to 500°F (246 to 260ºF): If you're turning up the heat to the highest temperatures your oven can go, you're likely making pizza or pieces of bread. A very high temperature will cause the bread or pizza dough to rise and cook before the gluten has a chance to set.

Types of Baking

- **Cakes**: Whether its layer cakes, sheet cakes, cupcakes, or cheesecakes, there are hundreds of different kinds of glorious cakes. Most fall into two basic categories, depending on the quantity of fat used: shortened cakes, using shortening, butter, or oil, or un shortened cakes using little to no fat.
- **Custards**: Rich and creamy, custards are thick desserts made with eggs and milk. Crème brûlée, pots de creme, and pannacotta are some of the most popular.
- **Chocolate Baking**: One of the most popular types of baking, using chocolate in baking is a sure fire way to gain big points with any chocolate lover. Knowing the right type of chocolate, from cocoa content to fat content, is key.
- **Bread**: An age-old food, bread is completely satisfying and very rewarding to make at home. From flatbread to focaccia, pizza dough to baguette, many types of bread use some form of yeast as a leavening agent to achieve airy holes and a nutty flavor. Irish soda bread is an exception that uses chemical leavening agents for a quick crusty product.
- **Quick breads**: Flaky buttermilk biscuits, banana bread, muffins, and doughnuts are all examples of quick bread, which usually use chemical leavening instead of yeast for their rise.
- **Pastry**: Then the pastry category is something worth checking out. It's a broad family with some of the most challenging types of baking, but all use a combination of fat, flour, water, and salt to achieve their unparalleled texture and mouth feel.
- **Pies and tarts**: Flaky crusts for savory and sweet applications alike, pies and tarts rely on a thin dough that is tender and crisp at the same time. Think crostatas, double crust pies, fruit tarts, and galettes.

Stages of Baking

There are 9 stages of baking for batters and dough from the start to after it's been freshly baked. All of these contribute to the texture, structure, and taste.

- Gases Form: Carbon dioxide, steam, and air that is present before or develop during baking affect the final texture.
- Gases Trapped: Egg and/or gluten proteins are expandable networks that trap gases in the product.
- Starches Gelatinize: Starch granules in flour/grains absorb ~ 10X their weight in moisture and expand at 140ºF (60ºC).
- Proteins Coagulate: Proteins in gluten, dairy, and eggs solidify at 160ºF (71ºC), setting the majority of the structure.
- Fats Melt: Fat droplets disperse and steam is released. The fat coats the starch granules to help moisten and tenderize.
- Water Evaporates: During baking, the water turns to steam and evaporates, with continued heating a dried crust forms.
- Sugars Caramelize: Sugars heated above 320ºF (160ºC) carmelize, thus develop deeper color and flavor.
- Carryover Baking: Depending on the product and time it sits on the pan after baking affects heat transfer to the center.
- Staling: Change in texture and aroma due to moisture loss. The structure of starch granules modifies called starch retrogradation. This causes drier, firmer, crumbly, or less crisp texture. This happens faster at refrigerated temperatures of 40ºF (4ºC), so keep baked goods at room temperature or frozen as long as there is not perishable filling.

A glaze in cooking is a coating of a glossy, often sweet, sometimes savoury, substance applied to food typically by dipping, dripping, or with a brush. Egg whites and basic icings are both used as glazes. They often incorporate butter, sugar, milk, and certain oils. For example, doughnut glaze is made from a simple mixture of powdered or confectioner's sugar and water that the doughnuts are dipped in, or some pastry doughs have a brushed on coating of egg whites. Glazes can also be made from fruit or fruit juice along with other ingredients and are often applied to pastries.

In contrast to frosted cakes, these pastries use "mirror glaze," which is glossier than normal glaze, so objects reflect on the surface. A type of savory glaze can be made from reduced

stock that is put on meat or vegetables. Some candies or confections may be coated in edible wax glazes. Glazed ham is a ham dish prepared using a glaze.

Self-check 2	**Written test**

Name…… ID…… Date…….

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

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

Explain 9 stages of baking for batters and dough

Note: **Satisfactory rating 12 points**	**Unsatisfactory below 12 points**

Information Sheet 3- Using appropriate ingredients and techniques to produce hot and cold sauces

3.1. Introduction

A sauce may be defined as a flavorful liquid, usually thickened, used to season, flavor, and enhance other foods. Sauce is a term used in cookery to describe a wide range of flavoured liquids that are served as part of the meal, or dish. The addition of a sauce to a dish can be used to transform the overall presentation of a dish by adding flavour, moisture, richness and visual appeal. Sauces come in a variety of different styles and consistencies. They can be thick or thin, rich and creamy, or light and delicate. Depending on the purpose, sauces can be strongly flavoured, hot and spicy, or even sweet to be served with a dessert. The way in which the sauce is presented will depend very much on the dish being served. The sauce may be served partially masked over the food, served under the food, or served in a separate dish or saucier.

In cooking, a sauce is a liquid, cream, or semi-solid food, served on or used in preparing other foods. Most sauces are not normally consumed by themselves; they add flavor, moisture, and visual appeal to a dish. Sauce is a French word taken from the Latin salsa, meaning salted.

A sauce adds the following qualities to foods:

- Moistness
- Flavor
- Richness
- Appearance (color and shine)
- Interest and appetite appeal

3.2. Ingredients of sauce

The major sauces we consider here are made of three kinds of ingredients:

- A liquid, the body of the sauce
- A thickening agent
- Additional seasoning and flavoring ingredients

To understand sauce-making, it is necessary to understand how to prepare these components and then how to combine them into finished sauces.

3.2.1 Liquid based ingredients

A liquid ingredient provides the body or base of most sauces. Most classic sauces are built on one of five liquids or bases. The resulting sauces are called leading sauces or mother sauces.

- Brown stock for brown sauce
- Milk
- Tomato plus stock
- Clarified butter

The most frequently used sauces are based on stock. The quality of these sauces depends on the stock-making skills you learned in the previous section.

3.2.2 Thickening agents

A sauce must be thick enough to cling lightly to the food. Otherwise, it will just run off and lie in a puddle in the plate. This doesn't mean it should be heavy and pasty. Starches are still the most commonly used thickening agents, although they are used less often than in the past. We discuss starches and other thickening agents in detail below.

3.2.3 Other flavoring ingredients

Although the liquid that makes up the bulk of the sauce provides the basic flavor, other ingredients are added to make variations on the basic themes and to give a finished character to the sauces.

Adding specified flavoring ingredients to basic sauces is the key to the catalog of classic sauces. Most of the hundreds of sauces listed in the standard repertoires are made by adding one or more flavoring ingredients to one of the five basic sauces or leading sauces.

As in all of process, sauce-making is largely a matter of learning a few building blocks and then building with them.

3.2.4 Starches as Thickeners

I. Starches are the most common and most useful thickeners for sauce-making. Flour is the principal starch used. Others available to the chef include cornstarch, arrowroot, waxy maize, instant or pregelatinized starch, bread crumbs, and other vegetable and grain products, like potato starch and rice flour.

II. Starches thicken by gelatinization, is the process by which starch granules absorb water and swell to many times their original size.

III. Starch granules must be separated before heating in liquid to avoid lumping. If granules are not separated, lumping occurs because the starch on the outside of the lump quickly gelatinizes into a coating that prevents the liquid from reaching the starch inside.

Starch granules are separated in two ways:

- Mixing the starch with fat.
- Mixing the starch with a cold liquid. A mixture of raw starch and cold liquid is called a slurry.

Roux ingredients

Roux (roo) is a cooked mixture of equal parts by weight of fat and flour.

Fat

The cooking fats employed for making roux are as follows:

Clarified butter is preferred for the finest sauces because of its flavor. The butter is clarified because the moisture content of whole butter tends to gelatinize some of the starch and makes the roux hard to work.

Margarine is widely used in place of butter because of its lower cost. However, its flavor is inferior to butter, so it does not make as fine a sauce. The quality of margarine varies from brand to brand.

Animal fats, such as chicken fat, beef drippings, and lard, are used when their flavor is appropriate to the sauce. Thus, chicken fat can be used for chicken velouté, and beef drippings can be used for beef gravy. When properly used, animal fats can enhance the flavor of a sauce.

Vegetable oil and shortening can be used for roux but, because they add no flavor, they are not preferred. Solid shortening also has the disadvantage of having a high melting point, which gives it an unpleasant fuzzy feeling in the mouth. It is best reserved for the bakeshop and the fry kettle.

Today, roux-thickened sauces are often condemned for health reasons because of the fat content of the roux. It should be remembered, however, that when a roux-bound velouté or brown sauce is properly made, most of the fat is released and skimmed off before the sauce is served.

Flour

The thickening power of flour depends, in part, on its starch content. Bread flour has less starch and more protein than cake flour. Eight parts (such as ounces or grams) of cake flour has the same thickening power as 10 parts of bread flour.

Bread flour frequently is used for general cooking purposes in commercial kitchens even though it has less thickening power than cake flour or pastry flour. Most sauce recipes in this book, as well as in other books, are based on bread flour or on all-purpose flour, which has similar thickening power. The proportions of roux to liquid must be adjusted if another flour s used. Flour is sometimes browned dry in the oven for use in brown roux. A heavily browned flour has only one-third the thickening power of unbrowned flour.

In addition to starch, wheat flour contains proteins and other components. As a roux thickened sauce is simmered, these components rise to the surface as scum. They then can be skimmed off. Sauces are generally simmered for a time even after the starch is completely gelatinized so these “impurities” can be cooked off. This improves the texture, gloss, and clarity of a sauce. When a high-protein flour such as bread flour is used in a roux, the sauce must be cooked longer and skimmed more often to achieve good clarity.

Sauces made with wheat flour do not freeze well because some of the starch breaks down when frozen, reducing its thickening power.

Dessert Sauces

Sauces enhance desserts by both their flavour and their appearance, just as savory sauces enhancements, fish, and vegetables. Crèmeanglaise, chocolate sauce, caramel sauce, and the many fruit sauces and coulis are the most versatile. One or another of these sauces will complement nearly every dessert.

Caramel sauce

A proper caramel flavour is a delicate balance between sweetness and bitterness. As sugar cooks and begins to change colour, a flavour change will occur.

Chocolate sauce

Sometimes called fudge sauce, chocolate sauce is generally made from cream (or milk), butter, and chocolate, and can be served hot or cold. The proportion of each of the ingredients will affect the thickness of the final product.

Compote

French for “mixture,”a compote is cooked fruit served in its own cooking liquid, usually sugar syrup.

Cream. Curd

A curd is creamy and fruit based, with citrus and berry flavour being the most popular. Made from fruit juices, eggs, butter, and sugar cooked in a process similar to crème anglaise, curds can be thick, pourable sauces or spreads.

Fruit butter

Fruit butter is a spread made from whole fruits, cooked, reduced, and puréed until very thick. It does not contain any butter; the term refers to the consistency.

A fruit sauce is a fruit purée, cooked and thickened with a starch. It is normally served cold.

Hard sauce

This traditional sauce for Christmas pudding, or any steamed pudding, is made by combining butter, sugar, and flavouring, often liqueurs. It is normally piped into shapes and chilled, then placed on the warm dessert just before serving

Sabayon

Sabayon is a mixture of egg yolks, flavouring, and sugar beaten over simmering water until thick, then beaten until cool. It is traditionally flavoured with sweet white wine or liquor, then served over fresh fruit and grilled (when it is called a gratin).

Sel f-check 3	**Written test**

Name…… ID…… Date…….

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

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

Choose

1. _____Is a delicate balance between sweetness and bitterness?

   A. Caramel sauce
   B. Chocolate sauce
   C. Fruit butter
   D. All

2. _____Sometimes called fudge sauce, chocolate sauce is generally made from cream (or milk), butter, and chocolate, and can be served hot or cold

   E. Caramel sauce
   F. Chocolate sauce
   G. Fruit butter
   H. None

3_____Fruit butter is a spread made from whole fruits, cooked, reduced, and puréed until very thick.

   I. Caramel sauce
   J. Chocolate sauce
   K. Fruit butter
   L. all

Note: **Satisfactory rating 12 points**	**Unsatisfactory below 12 points**

Information Sheet 4- Allocating portions according with workplace standards

A portion is how much food that selected to eat at one time, whether in a restaurant, from a package, or at home. A serving, or serving size, is the amount of food listed on a product's Nutrition Facts, or food label.

A portion size is the actual amount of food you put on your plate. Serving sizes help guide us in choosing portion sizes that meet our nutritional needs. The most difficult task in catering is learning how to calculate food portions for the number of guests and the type of event you have. You don't want people to go home hungry, but you also don't want to have too many leftovers. When making food platters with small bites of a food, for general and fast calculation, do the following:

Guests: ___ number of guests
End Result: ___ light snack (3 bites); ___ Bridge the gap (6 bites); ___ full meal (10-12 bites)
Calculation: Guests X Bites = Total Bites
How Many Platters: ___ Total Bites ÷ Bites per platter (example: 15) = Number of Platters

Example:
100 guests x Full Meal (10-12) = 1200 ÷ 15 = 80 platters
100 guests x Bridge the Gap (6) = 600 ÷ 15 = 40 platters
100 guests x Light Snack (3) = 300 ÷ 15 = 20 platters

So, for an event of 100 guests, you'll need 80 platters to feed the guests at "full meal" capacity. You may feel the need to order 1-2 more than your calculation, but keep in mind that different guests have different levels of appetite.

It's best not to have too many leftovers since any extra time making extra bites costs your staff time and costs you money in wasted ingredients.

Make sure everyone on your staff knows what's in the foods and what you have on offer. A guest may have allergies (such as a dairy allergy) or a preference (such as an aversion to mayonnaise) and you'll want your staff to be able to point the guest in the direction of options.

There are a range of different platters you can prepare as long as you calculate the portions correctly. Try and provide variety for your guests so something will appeal to everyone. Keep presentation in mind when designing platters. You want to make everything look attractive and appealing. Vary your colour choice too as it will not only look beautiful, but it will also provide a nutritionally varied meal for your guests.

Catering Portions Chart

For a complete breakdown for buffet and table service portions. We have a chart that provides suggested portions for a single guest, 25 guests, and 50 guests - and can be scaled up or down accordingly. From appetiser portions to soups and stews to desserts and side dishes, we cover almost every type of food you'd need to include on catering menu.

Dessert portions are a little bigger and are around 2.5cm x 5cm x 10cm (or 1" x 2" x 4"). These portions are typically used when there are no other desserts on offer. You should bear in mind that if you opt for dessert portions you will need double the amount of dessert. If you will be serving other desserts you may be able to get away with a smaller sized cake because there will be other baked goodies and sweet treats on offer. For example, you may opt for a single tier rather than a 2 tier cake.

Dessert	Per Person	25 guests	50 guests
Brownies or bars	1 to 2 per person	2 ½ to 3 dozen	5 ½ to 6 dozen
Cheesecake	2 inch wedge	2, 9 inch cheesecakes	4, 9 inch cheesecakes
Cobbler	1 cup 230 g serving	2, 9x9x2 inch pans 2, 23 x 23 x 5 cm pans	4, 9x9x2 inch pans 4, 23 x 23 x 5 cm pans
Cookies / Biscuits	2 to 3	3 to 4 dozen	6 to 8 dozen
Ice cream, gelato, or sorbet	8 oz ½ pint	1 gallon (US) 6-7 pints	2 gallons (US) 13-14 pints
Layered cake or angel food cake	1 slice	2, 8 inch cakes 2, 20 x 20 cm cakes	4, 8 inch cakes 4, 20 x 20 cm cakes
Pie (fruit)	3 inch wedge 7 ½ - 8 cm wedge	2 - 3, 9 inch pies 2 -3, 23 x 23 cm inch pies	4 - 5, 9 inch pies 2 -3, 23 x 23 cm inch pies
Puddings / mousses (banana, chocolate, toffee, etc), trifles, and the like	1 cup 230 g serving	1 gallon 6-7 pints / 6 ½ kilos	2 gallons 13-14 pints / 12 ½ kilos
Sheet cake (a full sheet cake is baked in a 26 x 18 x 1-inch pan / 66 x 46 x 3 cm pan)	2 x 2 inch piece 5 x 5 cm piece	¼ sheet cake (Roughly 13 x 9 x 2-inch baking pan or 33 x 23 x 5 cm)	½ sheet cake (Roughly 15 x 10 x 1-inch baking pan or 38 x 26 x 3 cm)

Self-check 4	**Written test**

Name…… ID…… Date…….

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

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

Short answer

1. What is portion?
2. Explain portion size

Note: **Satisfactory rating 12 points**	**Unsatisfactory below 12 points**

Information Sheet 5- Conducting work to minimize waste

5.1 Introduction

The disposal of sewage and effluents (solid, liquid and gas) shall be in conformity with requirements of Factory / Environment Pollution Control Board. Adequate drainage, waste disposal systems and facilities shall be provided and they shall be designed and constructed in such manner so that the risk of contaminating food or the potable water supply is eliminated.

Waste (hazardous) storage shall be located in such that it does not contaminate the food process, storage areas, the environment inside and outside the food establishment and waste shall be kept in covered containers and shall not be allowed to accumulate in food handling, food storage, and other working areas. Periodic disposal of the refuse / waste be made compulsory. No waste shall be kept open inside the premise and shall not be discharged outside the premise, on the road or drainage system.

5.2 Types of waste in cooking plant

Process waste

- Dough
- Flour dust
- Sugar dust
- Burnt loaves or rejected loaves
- Market returned old bakery products

These can be sold out to suppliers who deals into cattle feeding. Precaution should be taken that none of these have contamination so that it can be used for cattle feeding.

Packaging waste

- Wrappers
- Tins
- Cardboard boxes
- Bags

- Cores
- Polythene
- Sacks
- Plastic Trays and Pallets

Most of these are can be recycled by packaging material suppliers

Solid waste

- Metallic scrap
- Wooden Pallets and other
- Papers
- Bakery waste water dry Sludge

Metallic scrap can be sold to scrap merchants, Dry Sludge and other can be sold to land filling contractors. Bakery waste water can be treated can be used for gardening and other cleaning purpose.

Other waste are

- Fat & oil contaminated
- Spent Oil from machinery

Could be sold to recyclers. Bakery waste recycling are being adopted by various companies to save cost and implement resource conservation.

Self-check 5	**Written test**

Name…… ID…… Date…….

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

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

Choose

1. Which one of the following is not Packaging waste
   A. Wrappers
   B. Tins
   C. Metallic scrap
   D. Cardboard boxes
2. Which one of the following is not Process Waste?
   A. Dough
   B. Flour dust
   C. Sugar dust
   D. Wrappers

Short answer

Write types of wastes in bakery and how it to be controlled

Note: **Satisfactory rating 12 points**	**Unsatisfactory below 12 points**

Information Sheet 6- Workplace environmental standards and relevant policies and procedures

6.1 Introduction

The most important concept to remember is that you are responsible for your own safety and the safety of others. Most safety practices are common sense. Unfortunately, they can be forgotten or overlooked unless you make safe practices a habit or an instinct.

6.2 Work place Accidents and Their Causes

Over 90% of all accidents are preventable, and three basic rules of kitchen safety, if enforced, will significantly reduce the likelihood of kitchen mishaps.

- Do not run: People who rush around in the kitchen tend to take chances that increase the likelihood of an accident.
- Keep your mind on your work: People who let their attention wander are a hazard to themselves and others around them. Lack of interest, personal problems, and distraction by others can all lead to serious accidents in the kitchen.
- Observe all the rules for operating kitchen equipment. Never operate kitchen equipment until instructed in the correct procedures.

In a commercial kitchen, safety is everyone's job. It is a responsibility that must be accepted throughout the working day. As stated many times before, accidents are caused they do not just happen. They are the result of not knowing the proper way to do a task, carelessly performing an operation or job, or not being consciously

Cooking is considered a fairly safe occupation, but hazards certainly do exist, not only in food preparation but in other related tasks as well. The most common accidents in the kitchen are cuts, burns, falls, and strains. All of these accidents happen when extreme carelessness or general horseplay is present. Carelessness and horseplay can be neither justified nor allowed in the commercial kitchen.

6.2.1 Cuts

Cuts are all too common in commercial kitchens because knives and other cutting implements are constantly in use. These cuts, and the seriousness of the cuts, however, can be held to a minimum by using ordinary good sense, by paying attention to the proper safety rules, and by practicing proper cutting procedures.

6.2.2 Burns

Two types of burns occur in the commercial kitchen: minor and serious. Minor burns are usually a result of wet or damp towels used to handle hot pots and pans, or from bumping an exposed area of your arm against a hot surface like and oven rack. More serious burns occur when grease is splashed, when steam escapes or is released too quickly, or when gas is turned on or released unknowingly. Burns are generally more painful than cuts, and they certainly take more time to heal. If the burn is severe enough to cause a blister, it should be treated promptly by trained medical personnel.

6.2.3 Falls

Falls can cause some of the most serious injuries in the commercial kitchen. They may disable or incapacitate a person for life. Falls are caused by extreme carelessness, wet floors and aisles, spilled food or grease, and by torn mats or warped floor boards.

6.2.4 Strains

Strains may not be as serious as other types of injuries, but they are painful and can result in the loss of many working hours. They are caused by carrying loads that are too heavy and by improper lifting practices. Most strains do not require medical attention, but they do require time and care to heal properly.

6.2.5 Safety Practices for the work place

A kitchen has many safety hazards. It contains hot stoves, electrical equipment, and sharp tools. These hazards, combined with the busy, often frantic pace in a kitchen, make it very important that you work carefully while giving constant attention to the safety practices described below.

6.3 Housekeeping

Good housekeeping is an important part of safety and accident prevention. Many unsafe conditions can be corrected before they result in injury. Good housekeeping is a necessity for a safe and sanitary kitchen. A clean work environment leads to pride in workmanship and a safe operation.

6.4 Personal Protective Equipment

In addition to being aware of the mechanical hazards in the kitchen, it is important that you use the correct protective clothing and equipment. Wearing personal protective equipment (PPE) can prevent accidents from happening. Worker are responsible for the following:

- Making sure your uniform is well fitted.
- Keeping all uniforms clean and in good condition, not frayed or badly worn.
- Making sure sleeves are kept buttoned at the wrist, cuffs on overalls and trousers are be eliminated, and trouser legs are long enough to hang outside boots.
- Wearing specific personal safety equipment such as goggles, hearing protection, gloves, and aprons when required.

6.5 Equipment Safety

Extreme care should be taken when operating equipment. Before you attempt to operate any tool or piece of equipment, you must be fully trained by an experienced operator. Make sure that all guards are in place and function properly and that all electrical connections are properly made.

Self-check 6	**Written test**

Name…… ID…… Date…….

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

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

True or false

1. Worker not to be sure their uniform is well fitted.
2. Worker keeping all uniforms clean and in good condition, not frayed or badly worn.
3. Cooking is considered a fairly safe occupation, but hazards certainly do exist, not only in food preparation but in other related tasks as well.

Note: **Satisfactory rating 12 points**	**Unsatisfactory below 12 points**

Operation Sheet – 1 Techniques of custard preparation

Ingredients

- eggs 6
- granulated sugar 150g
- milk 565ml
- vanilla pod 1
- nutmeg, grated to taste
- Serves 6–8

Method

1. Put the eggs and sugar into a bowl. Whisk to mix, but do not incorporate air as this will affect the final product.
2. Put the milk into a saucepan. Split the vanilla pod and put the seeds into the milk. Warm the milk to infuse the flavour. Do not boil.
3. Pour the hot milk onto the egg and sugar mixture. Whisk to mix but do not make frothy.
4. Strain through a conical strainer.
5. Transfer to a buttered dish and grate nutmeg onto the surface.
6. Cook in a bain-marie for approximately 30 to 35 minutes at 200°C.
7. Once cooked allow to cool. Store in the fridge until required for service.

Operation Sheet – 2 Techniques of pudding preparation

Ingredients

- eggs 6 medium
- granulated sugar 150g
- milk 500ml
- vanilla pod 1
- sultanas 100g
- white bread 250g (approx 7 slices)
- butter 100g

Cooking time 30–35 minutes Oven temperature 190°C

Method

1. Make the egg custard as normal.
2. Butter and sugar a pie dish.
3. Wash and dry the sultanas.
4. Butter the bread and cut each slice into four triangles. (The crusts can be removed if required.)
5. Layer the pie dish with alternate layers of buttered bread and sultanas. Finish with a layer of buttered bread. Do not use any sultanas on the top layer as they will burn during cooking and taste bitter.
6. Pass the egg custard through a conical strainer onto the bread. Allow the bread to soak up the egg custard mixture for at least 30 minutes.
7. Place the dish into a deep tray. Half fill the tray to make a bain-marie.
8. Bake the pudding until set and golden brown. Serve hot.

Operation Sheet – 3 Techniques of sorbet preparation

Ingredients

- Sugar 375 g
- Water 250 ml

Procedure

- Make a syrup by heating the sugar and first quantity of water to dissolve the sugar. Cool.
- Prepare the desired flavor ingredients as indicated in the variations that follow. If additional water is required, mix it with the flavor ingredient.
- Mix the syrup with the remaining ingredients.
- If possible, test the sugar concentration with a hydrometer (saccharometer). The mixture should be between 16° and 18° Baumé, or between 30° and 32.5° Brix. If the concentration is too low, add a little more syrup. If it is high, dilute with a little water.
- Chill the mixture well, then freeze in an ice cream freezer according to the manufacturer's instructions.

Operation Sheet - 4 Techniques of ice cream preparation

Ingredients

- Egg yolks 250 g
- Sugar 190 g
- Milk 1250 ml
- Sugar 375 g Bittersweet chocolate8 250 g
- Cocoa powder, sifted 250 g
- Heavy cream1 500 ml 2

Method

- Combine the egg yolks and the first quantity of sugar in a bowl. Whip until thick and light.
- Combine the milk and the second quantity of sugar in a heavy saucepan. Bring to a simmer, stirring to dissolve the sugar.
- Gradually beat the milk into the egg yolk mixture. Set over a hot-water bath and heat, stirring constantly, until the mixture thickens enough to coat the back of a spoon. Immediately remove from the heat. Let cool until lukewarm.
- Melt the chocolate and let cool slightly.
- Gradually stir in the custard mixture.
- Add the cocoa and beat with a whip until it is thoroughly mixed in.7.Stir in the heavy cream.
- Chill the mixture. Refrigerate 12 hours to mature the mix (p. 557).
- Freeze in an ice cream freezer.

Operation Sheet - 5 Techniques of bombe preparation

Prep. Time: 5 minutes

Cook time: 20 minutes

Ready in 25 minutes

Ingredients

- Egg yolks 80g (2.8oz or 4 medium egg yolks)
- Sugar 60g (2.1oz)
- Marsala wine 50ml (1.8oz)
- Fresh strawberries
- Crispy cookies

Directions

1. Put egg yolks and sugar in a heatproof bowl and whisk to combine.
2. Add Marsala wine and stir well.
3. Put everything on bain-marie and whisk on top the simmering water until the mixture becomes thick and pale. Zabaglione should reach the temperature of 70°C (158°F).
4. Put crushed cookies at the bottom of the bowl and put diced strawberries on the top.
5. Pour zabaglione on top of strawberries and top with more fresh strawberries and freshly grated lime zest.

Operation Sheet - 6 Techniques of Cold meringue preparation

Ingredients

1. part of egg white to 2 parts of caster sugar
2. egg white 100g
3. caster sugar 200g

Method

- Whisk the egg white in a clean bowl on the highest setting of a mixing machine.
- Whisk until tripled in size.
- Slowly add the sugar in small amounts while the machine is still running on full speed.
- Turn the machine off once all the sugar has been incorporated and use as required.

Operation Sheet - 7 Techniques of hot meringue preparation

Ingredients

1 part of egg white to 2 parts of caster sugar

Method

1 Put the sugar and egg white into a clean mixing bowl that will fit onto a machine. Combine using a hand whisk.

2 Put the bowl onto a bain-marie and whisk until the sugar has dissolved. To check this, remove the bowl from the heat and dip in a wooden spoon. Remove the wooden spoon and rub a finger over the spoon. If the mixture feels gritty, return it to the heat and whisk until the sugar has dissolved.

3 Fit the bowl onto the machine, attach the whisk and whisk on the highest setting until the mixture is cold and in a stiff peak.

Operation Sheet - 8 Techniques of crepes preparation

Ingredients

- tablespoon granulated sugar
- 1/4 teaspoon kosher salt
- 1 1/2 cups whole milk, room temperature
- large eggs, room temperature
- tablespoons unsalted butter, melted for brushing

Method

- In a blender, puree flour, sugar, salt, milk, eggs, and butter until smooth, about 30 seconds.
- Refrigerate for 30 minutes or up to 1 day
- Stir for a few seconds before using.
- Heat an 8-inch nonstick skillet over medium.
- Lightly coat with butter. Quickly pour 1/4 cup batter into center of skillet, tilting and swirling pan until batter evenly coats bottom.
- Cook until crepe is golden in places on bottom and edges begin to lift from pan, 1 to 1 1/2 minutes.
- Lift one edge of crepe with an offset spatula, then use your fingers to gently flip crepe. Cook on second side until just set and golden in places on bottom, about 45 seconds. Slide crepe onto a paper towel-lined plate.
- Repeat with remaining batter, coating pan with more butter as needed, and stacking crepes directly on top of one another.
- Let cool to room temperature before using, wrapping in plastic wrap and refrigerating up to 5 days, or freezing up to 1 month.

Operation Sheet - 9 Techniques of omelettes preparation

Ingredients

- water
- egg
- salt
- pepper

Procedure

Step 1: Prep Your Toppings and Tools

Have all your toppings ready before you start cooking the eggs — it comes together fast! Precook meats and vegetables such as mushrooms, onions and peppers, shred cheese and slice raw tomatoes, scallions and fresh herbs. Try two to three toppings to avoid overstuffing the omelet. Also, grab a serving plate and heatproof spatula.

Step 2: Add Water to Eggs

Crack your eggs into a bowl and add a splash of water. When cooked, the steam from the water makes the omelet light and fluffy.

Step 3: Whisk the Egg-Water Mixture

Whisk the egg mixture vigorously with a fork until the whites and yolks are completely blended.

Step 4: Heat Your Skillet

Heat a nonstick pan over medium-high heat. Add enough butter to coat the bottom of the pan. Use unsalted butter; that way, you can control the amount of salt in the omelet.

Step 5: Make Sure the Pan Is Ready

The pan is ready when the foam from the butter subsides.

Step 6: Add the Egg Mixture

Pour the egg mixture into the hot pan, then let the eggs set a little along the edges — it will only take a few seconds.

Step 7: Gently "Scramble" the Egg Mixture

Using a spatula, pull the eggs in from all four sides toward the center, allowing the liquid egg to flow underneath the set part.

Step 8: Add the Toppings

When the eggs are set on the outside but not quite in the center, it's time to add the toppings. Don't worry if it's a little soft; the eggs will continue cooking once the omelet is rolled.

Step 9: Fold the Omelet

Fold one-third of the omelet in with your spatula. The other side will fold over as you tilt it onto the plate.

Step 10: Flip the Omelet

Tilt the skillet to fold the final third of the omelet over, then turn the skillet a little more so the omelet falls onto the plate folded-side down. Season to taste with salt and pepper.

Operation Sheet - 10 Techniques of Charlotte preparation

Ingredients

- Flour - 1 cup
- Sour apples - 5 pcs
- Chicken eggs - 4-5 pcs
- Sugar - 1 cup
- Pinch of baking powder

Method

- Separate the whites from the yolks, place the whites in a deep bowl and add sugar to them.
- Beat whites with sugar until hard peaks rise, then one by one add yolks to them. When the mass becomes homogeneous and bulk, gradually
- Add in it the sifted wheat flour together with baking powder.
- Stir to dissolve all the lumps to the dough turned out smooth, consistency reminiscent of thick sour cream.
- Start cutting apples for the filling. Cut them into small pieces and mix with the resulting mass.
- Then pour the dough onto a well-oiled pan with a thick bottom and close tightly with the lid. Distribute it evenly on the bottom. On a very low heat, bake the cake for 35-40 minutes, periodically checking its readiness with a dry spike.

Operation Sheet - 11 Techniques of Bavarians preparation

Ingredients

Gelatin	3 leaves
Sugar	50g
Eggs	2
Milk	250ml
Vanilla essence	to taste double cream 240ml
Makes	6 ×6cm mousse ring

Method

1. Put the gelatine in a bowl and soak it in cold water.
2. Separate the egg yolks and egg whites.
3. Put the sugar and egg yolks into another bowl. Whisk them together.
4. Put the milk and vanilla essence into a pan and boil them.
5. Pour the hot milk over the sugar and egg mixture and mix.
6. Get a clean bowl and a conical strainer.
7. Pour the mixture into a clean saucepan.
8. Return to the heat and stir gently using a wooden spoon.
9. Once the mixture starts to thicken, remove from the heat and pour through the strainer into the clean bowl. Do not boil.
10. Take the soaked gelatine out of the water and squeeze out the excess water.
11. Gently stir it into the warm mixture until fully dissolved.
12. Allow the mixture to cool down.
13. While the mixture is cooling, half whip the double cream until it starts

to thicken.

14 Once the egg mixture starts to set, gently fold in the whipped cream.

15 Whip the egg whites to a stiff snow (until the egg white peaks and the peaks do not drop to one side) and gently fold in.

16 Fill moulds as required and store in the fridge until ready for service.

Operation Sheet - 12 Techniques of mousses preparation

Ingredients

- Syrup for Bombes 250 mL
- Fruit purée 250 mL
- Heavy cream 500 mL

Procedure

1. Mix the syrup and fruit purée until uniformly blended.
2. Whip the cream until it forms soft peaks.
3. Fold the cream into the syrup mixture.
4. Pour the mixture into molds or dishes and freeze.

Operation Sheet - 13 Techniques of Soufflés preparation

Ingredients

- 2 tbsp. (30 mL) butter
- 2 tbsp. (30 mL) all-purpose flour
- 1/2 tsp (2.5 mL) salt
- Pinch pepper
- 3/4 cup (175 mL) milk (1%)
- 4 egg yolks
- 2 egg whites
- 1/4 tsp (1.25 mL) cream of tartar

Procedure

- Preheat oven to 375° F (190° C).
- Melt butter in medium saucepan over low heat. Stir in flour, salt and pepper. Cook, stirring constantly, until mixture is smooth and bubbly. Stir in milk all at once. Continue stirring until mixture boils and is smooth and thickened.
- Separate eggs. Beat yolks well and add 1/4 cup (50 mL) of warm sauce mixture to egg yolks
- Combine yolk mixture with remaining sauce, blending thoroughly. If desired, add finely chopped filling ingredients, stirring into white sauce until blended (see variations). Set sauce aside to cool slightly.
- Beat egg whites and cream of tartar in large bowl, until stiff but not dry. Fold some of the egg whites into sauce to make it lighter, then gently but thoroughly fold the sauce into the remaining egg whites.
- Carefully pour into 4-cup (1 L) soufflé or casserole dish. Bake in preheated 375° F (190° C) oven until puffed and lightly browned, 20 to 25 minutes or until done. Serve immediately.

Operation Sheet - 14 Techniques of sabayon preparation

Ingredients

- 4/6 - 4 egg yolks
- tb sp Cointreau
- 75 g sugar
- 50 ml orange juice (juice of 1 orange)

Procedure

1. Fit the metal bowl with the whisk. Put the egg yolks, caster sugar and orange juice into the metal bowl. Remove the cap and run the EXPERT programme for 10 minutes/speed 4/68°C. If necessary, scrape down the wall of the bowl using a spatula.

2. after 7-8 minutes, the sabayon will start to thicken; add the Cointreau through the opening.

Operation Sheet - 15 Techniques of Caramel sauce preparation

Ingredients

- 1 cup light brown sugar, packed
- Tbsp unsalted butter
- 1 tsp sea salt or to taste
- 1/2 cup half and half or use equal parts heavy cream and milk
- 1 Tbsp vanilla extract

Procedure

1. Combine all ingredients in a small/medium saucepan and simmer over low heat.
2. Make stirring constantly or until thickened and no longer watery (6-9 min).
3. Keep in mind it thickens more as it cools.
4. Serve warm, at room temperature or chilled.
5. Refrigerate in an airtight container up to 2 weeks.
6. You can re-warm it slightly to make it more drizzle-able.

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 **10** hour. The project is expected from each student to do it.

Task 1. Perform Techniques custard preparation

Task 2. Perform Techniques of pudding preparation

Task 3. Perform Techniques of sorbet preparation

Task 4. Perform Techniques of ice cream preparation

Task 5. Perform Techniques of bombe preparation

Task 6. Perform Techniques of Cold meringue preparation

Task 7. Perform Techniques of hot meringue preparation

Task 8. Perform Techniques of crepes preparation

Task 9. Perform Techniques of omelettes preparation

Task 10. Perform Techniques of Charlotte preparation

Task 11. Perform Techniques of Bavarians preparation

Task 12. Perform Techniques of mousses preparation

Task 13. Perform Techniques of Soufflés preparation

Task 1 4. Perform Techniques of sabayon preparation

Task 15. Perform Techniques of Caramel sauce preparation

LG 28	LO 3- Produce finish effects

Instruction sheet

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

- Producing a range of decorative pieces, accompaniments and garnishes to enhance taste, texture and balance.
- Conducting work according to food safety and legislative requirements
- Producing a range of fillings and toppings
- Completing decoration and finishing according to work requirements

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:

- Produce a range of decorative pieces, accompaniments and garnishes to enhance taste, texture and balance.
- Conduct work according to food safety and legislative requirements
- Produce a range of fillings and toppings
- Complete decoration and finishing according to work requirements

Learning Instructions:

Read the specific objectives of this Learning Guide.

1. Follow the instructions described below.
2. Read the information written in the information Sheets
3. Accomplish the Self-checks
4. Perform Operation Sheets
5. Do the “LAP test”

Information Sheet 1-Producing a range of decorative pieces, accompaniments and garnishes.

Decorations are mostly used in baked goods like cakes, cupcakes and cake pops. There are different cake decorative items in the market as glitter dust, beads, petal dust, shimmer powder, etc. Some of these ingredients are not edible and should be removed before serving. Therefore, it's always important to check the labels of food decorations before using them. However, some decorations may be labelled as nontoxic, but this doesn't mean that they are suitable for consumption. Besides, we can also consider cake toppers and cake figurines as food decorations. Some of these may be made with fondant and are edible. But, some cake toppers are made not made with edible materials.

Food decoration is something we use to decorate a dish. The main difference between garnish and decoration is that decoration is entirely a visual component. Decorations do not add flavour to a dish. In general, they are not for consumption.

Accompaniments can be defined as any additional food items that are served with the main dish. There are various accompaniments that are being served with different dishes in separate monkey bowls.

A garnish is an item or substance used as a decoration or embellishment accompanying a prepared food dish or drink. In many cases, it may give added or contrasting flavor. Some garnishes are selected mainly to augment the visual impact of the plate, while others are selected specifically for the flavor they may impart. This is in contrast to a condiment, a prepared sauce added to another food item primarily for its flavor. A food item which is served with garnish may be described as being garni, the French term for "garnished."

Many garnishes are not intended to be eaten, though for some it is fine to do so. Parsley is an example of a traditional garnish; this pungent green herb has small distinctly shaped leaves, firm stems, and is easy to trim into a garnish.

A garnish, simply put, can be just an add-on whose main purpose is decoration. However, carefully selected garnishes have other functions too. This “decorative” item can add important flavour, texture, and functional elements to the plating of the dessert, and can enhance the enjoyment of the dish.

Garnishes can solve the problem of serving a frozen component (ice cream or sorbet, for example) as part of a plated dessert. If a scoop of ice cream is placed directly onto the plate, it will start melting immediately, marring the presentation. If that scoop is placed onto an item, such as a cookie base, it will slow down the rate of melting, making it easier to serve, and allowing the customer to enjoy and appreciate the effort spent on the presentation.

Other garnishes that can be used to help present a frozen component are:

- Tuiles, which will also add visual, flavour, and texture (crunchy) elements
- Sliced fruit
- Meringue disk
- Small cookie
- Chocolate garnish
- Crumbs (cake, crushed nuts, or brittle)

Flooded plates can be made more attractive by applying a contrasting sauce and then blending or feathering the two sauces decoratively with a pick or the point of a knife. For this technique to work, the two sauces should be of about the same weight and consistency. Rather than flooding the entire plate, it’s more appropriate for many desserts to apply a smaller pool of sauce to the plate, as this avoids overwhelming the dessert with too much sauce.

A variation on the flooding technique is outlining, whereby a design is piped onto the plate in chocolate and allowed to set. The spaces can then be flooded with colorful sauces. A squeeze bottle is useful for making dots, lines, curves, and streaks of sauce in many patterns. A pastry bag can be used in the same way, but the squeeze bottle works better with more liquid sauces. Nothing more than a spoon is needed to drizzle random patterns of sauce onto a plate. Other techniques for saucing a plate include applying a small amount of sauce and streaking it with a brush, an offset spatula, or the back of a spoon.

Accompaniments are dishes which are used to make the main dish complete and garnishes are the food items placed around or on top of a principal dish for relish.
Both are important as they add value to our meals in terms of flavour, texture, and also micro nutrients like certain vitamins and minerals.

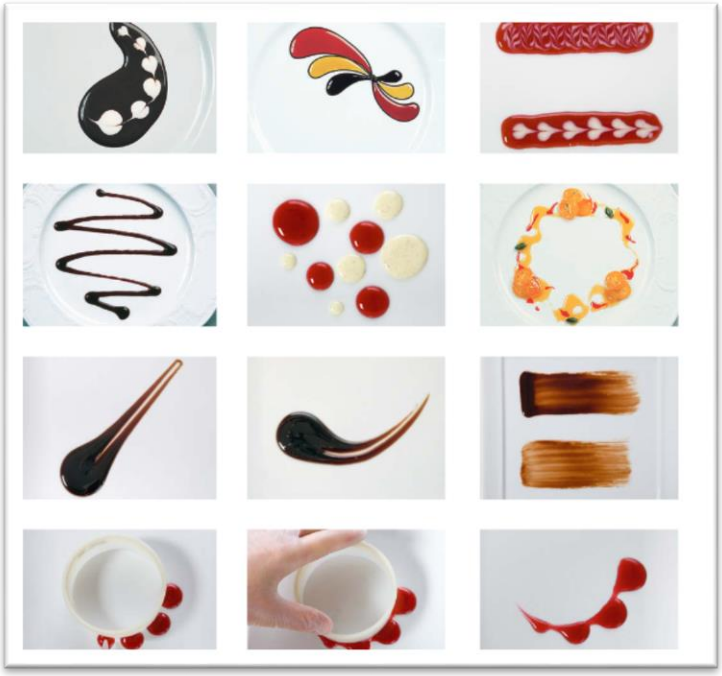


Figure 7. Decorative pieces

Many if not most dessert presentations are improved with one or more items added to enhance them. A simple, ungarnished plating is usually all that's needed for home-style

desserts and, at the opposite extreme, for elegant pastries that are beautiful on their own and need no added elements. Fruit is a good complement for many pastries, cakes, and other desserts. Nearly any fresh or cooked fruit can be used. Depending on size and shape, they can be used whole (such as berries) or cut into slices, wedges, or other shapes (such as apples, pears, pineapple, mango, kiwi, and peaches).

Ice creams and sorbets can provide both temperature and texture contrasts in a dessert presentation. For home style desserts such as pies, the ice cream is usually served with a standard scoop. For more elegant presentations, the ice cream is often shaped into a small, oval quenelle. To shape a quenelle, first make sure the ice cream or sorbet is tempered to a soft, workable consistency.

With a tablespoon dipped in water, scoop a portion of the frozen dessert. With a second spoon, scoop the ice cream out of the first spoon. This forms the ice cream into a neat, oval shape about the size of the bowl of the spoon. Repeat the scooping action with the first spoon, if necessary, to make the oval neater. Alternatively, using an oval scoop or spoon, simply draw the scoop across the surface of the ice cream. If the ice cream is at the proper serving temperature, it should curl into a perfect quenelle.

Whipped cream, applied with a pastry bag or spoon, is a classic garnish for many desserts. (Whipped cream could also be considered a sauce rather than a garnish.) A small cookie (petit four sec) or two gives textural contrast to soft desserts such as mousses, Bavarians, and ice creams.

Fruit crisps or chips are used to decorate fruit desserts of a corresponding flavor. Not only do they give a textural contrast but they also add flavor interest by providing a variation on the flavor of the main item. For example, one or more apple crisps can enhance a plating of baked apple with apple sorbet.

Chocolate decorations of many types, including curls, cigarettes, cutouts, and piped lacework, go well with many kinds of dessert, not only chocolate desserts. A choux lattice is used in the photo of a decorated slice of Passion Fruit Charlotte.

Choux paste can be used to make décor not just in lattice shapes but in many others as well.

Sugar spirals, spun sugar, and other forms of decorative sugar work, as well as caramelized or toasted nuts, are other items used to garnish appropriate desserts.

In summary, always keep in mind these general concepts when planning dessert presentations:

- Every component should have a purpose. Don't add elements merely to make the plate fuller. Limit the items added primarily for decoration.
- Components or elements can work together by complementing or by contrasting.
- When elements contrast, be sure they balance. For example, when you balance a rich mousse with a tart fruit sauce, be sure the sauce isn't so tart or strong-flavored that it over-whelms the mousse.

Self-check 1	**Written test**

Name…… ID…… Date…….

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

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

1. Which one of the following is garnishes that can be used to help present a frozen component?

A. stone
B. Sliced fruit
C. Meringue disk
D. Small cookie

2. _____is an item or substance used as a decoration or embellishment accompanying a prepared food dish or drink

A. Accompaniments
B. Whipped cream
C. Fruit crisps
D. Garnishes

3. _____ can be defined as any additional food items that are served with the main dish

A. Accompaniments
B. Whipped cream
C. Fruit crisps
D. Garnishes

Note: **Satisfactory rating 12 points**	**Unsatisfactory below 12 points**

Although some sweet foods are generally hot served, a great variety of them are considered non-hot served, which means they are probably prepared in advance and do not require reheating before consumption. Prolonged storage of sweet foods under room temperature Flavours the growth of microorganisms which increases food safety risk.

Besides the issue of temperature control, some non-hot served sweet foods involve post-cooking food handling with cream and fresh fruits that are highly perishable ingredients. During food handling, bacteria such as Staphylococcus aureus found on hands may cross-contaminate the food, which also increases food safety risk.

In this set of guidelines, the focus is on those sweet foods which are not generally hot served and associated with one or more of the following risk factors:

- Highly perishable ingredients
- Post-cooking handling involves manual handling and mixing with other ingredients
- Improper holding temperature before consumption.

Below is a discussion about the general principles, followed by practical illustrations with three non-hot served sweet foods:

- Dessert with fruit
- Dessert with cream, e.g. pancake or cream cake
- Chilled Chinese/Thai puddings

Source of hazards	Related food/ steps	Nature of hazards	Control Measures
Ingredients	Fruits	Bacteria, mold	● Buy from licensed/approved suppliers which are reliable ● Check suppliers' quality specification
	Cream	Bacterial growth	
	Bean, flour	Bacteria, mold	
Food processing steps	Storage	Bacterial growth	● Store ingredients at appropriate temperature and well covered.
	Preparation	Bacterial growth	● Follow strict personal hygiene ● Use separate equipment for handling cooked or ready to eat food and raw food ● Sanitize utensils/equipments after each use ● Discard fruits that are damaged or bruised ● Cover and refrigerate cut fruits/juice immediately after peeling or cutting.
	Cooking	Survival of bacteria	● Cook thoroughly
Post cooking handling	Storage	Bacterial growth	● Avoid prolonged storage at room temperature
	Mixing/ cutting/filling	Bacterial cross contamination	● Establish separate zones and use separate utensils to handle raw and cooked or ready to eat food ● Food handlers maintain good personal hygiene
	Transportation	Foreign bodies or chemical contamination inside delivery	● Inspect delivery vehicle

General principles to safeguard food safety

Since Hazard Analysis and Critical Control Point (HACCP) system can effectively enhance food safety and prevent foodborne diseases, operators should implement appropriate measures to minimize the risks associated with the hazards. Application of HACCP principles during routine operations can reduce the risks.

As a pre-requisite, good personal and environmental hygiene during all preparation and handling processes are essential to prevent outbreak of food incidents. To avoid cross contamination, food preparation areas, facilities, equipment and all food contact surfaces should always be sanitized and kept clean.

Food handlers should maintain a high standard of personal hygiene in order to avoid transferring food poisoning micro-organism to food. Furthermore, other basic works, such as pest control, waste disposal and staff training should also be in place.

Supplementary notes on transportation

Due to the evolution of chained food outlets and limited space in the catering establishment, some steps in sweet food production are carried out in food factory and subsequently delivered to the restaurants or outlets for retail sale. Temperature control during transportation is an important food safety issue.

Hygienic condition inside the delivery vehicles and maintenance of proper holding temperature are crucial to ensure safe sweet food production. Contamination may occur if sweet food is carried in dirty or inappropriate containers or vehicles. Further risk is introduced if they are transported under ambient temperature that encourages growth of pathogenic bacteria.

The following supplementary guidelines are developed for the steps of transportation:

- During transportation, sweet food should be carried in enclosed vehicles to protect it against contamination by dust/dirt/fumes from vehicles or traffic.
- Internal surfaces of the transporting vehicles should be smooth and impervious, and be frequently cleaned and disinfected. It is desirable to deliver cold food, such as cream cakes, by vehicles with refrigeration device.
- Inspecting the hygienic condition of the vehicle before each delivery.
- Transporting vehicle should not be used for purposes other than delivering sweet food, especially transportation of raw food or chemicals, and maintain delivery log for checking purpose.
- Conducting temperature checks before delivery and on arrival to ensure cold served sweet food is kept at 4 ^{o}C or below .
- Keeping food such as cream cake in hygienic and covered containers or completely wrap non-packaged food.
- Cleaning and disinfecting (where appropriate) containers regularly.

Self-check 2	**Written test**

Name…… ID…… Date…….

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

Short answer

1. Write nature of hazard for ingredients, food processing steps and food cooking post handlings of dessert foods
2. Explain General principles to safeguard food safety

Note: **Satisfactory rating 12 points**	**Unsatisfactory below 12 points**

Information Sheet 3- Producing a range of fillings and toppings

Fillings are key ingredients in many bakery products such as creams, fondants, chocolate, truffles, pralines, caramels and many more. They are incorporated into a variety of pastries and desserts such as donuts, layer cakes, pies, turnovers, sandwich-cookies or savory baked goods to impart unique:

- Color
- Taste
- Texture

For the best performance, fillings should be stable during storage, shelf life and baking. Bakery fillings are used to create a desired texture, sweetness, firmness, adhesion, shelf life, or ease of pumping/injection, among other properties.

Various types of fillings are used in commercial baking and food production, such as:

- Creams: typically made of superfine sugar, shortening or oil, corn syrup, water, polysorbate 60, salt, flavors, gums and other minor ingredients. Examples of this type are basic creams, custard- and cheese-based creams.
- Chocolate ganache, fudges and marshmallows
- Fruit-based fillings: as well as adding sweetness, fruit pastes are used for functional and health benefits. For example, plums contain sorbitol, which provides subtle sweetness and can boost the fiber content of cookies. Figs are rich in gallic acid, while dates contain high levels of chlorogenic acid and procatechuic acid. Fruit-based fillings contain gelling agents such as alginates.
- Nut and seed-based fillings: these are often ground to a very fine particle size or made into a spread, such as the popular chocolate hazelnut spread.

Processing

Cream fillings are usually produced near the filling stations to make sure they are consistent for the application. They can be applied to bakery products via depositing or injection.

- Deposition: a typical example is sandwich cookies processed using machines commonly known as cookie cappers. These units pull cookies from the end of the cooling conveyor, align them in rows and flip them over prior to depositing the fillings. Then, they place the top cookie to form a sandwich. The system can also be designed to feed the sandwiches directly to a chocolate enrobing line.[2]
- Injection: a typical example of filling injection is the Twinkies miniature cakes. After baking and cooling, the cakes are released from the trays and turned upside down. Next, they pass through a series of cream-filling injectors where injection heads simultaneously pierce the bottom of the cake and fill it with the cream prior to packaging.

Application

- The process ability of filling creams is a function of the amount and fineness of sugar and other dry ingredients, as well as the type of fats used and its crystallization behavior.
- Filler fat shortenings should be firm to provide support to the cookies or wafers and should not snap or squeeze out when pressed or broken.
- The shortening must completely melt in the mouth at body temperature to avoid waxy mouth feel. Low solid fat content at low temperature, good thermal stability without oiling out or sticking and a short plastic range are desirable characteristics of a good filler shortening. Typically, a ratio of 60:40 of partially hydrogenated fat to vegetable oil and 1 to 5 percent emulsifier are used in filler shortenings.
- One important aspect of fruit pastes is controlling their brix (°Bx). Dry fruit fillings in the pH range of 3.3–3.5 with 75–80°Bx remain spreadable during baking. Higher °Bx fillings harden especially during storage.

- Fillings should have low water activity (below 0.68) to ensure adequate microbiological quality and shelf life as well as retard moisture migration from the filling to the baked shell/cookie.

Toppings of seeds, grains, nuts, cheese, herbs, sugar, or salt provide added flavor and create a decorative appearance. There are several methods in which toppings can be applied to dough prior to baking.

- Using fingers, simply sprinkling the ingredients over the surface of bread loaves or rolls prior to baking.
- A sieve or flour duster can be used to dust the surface when using powdered ingredients such as flour.
- Some toppings may be easiest to apply using a spoon.

Types of Filling

- Custard
- Fruit
- Frosting
- Jelly
- Whipped Cream
- Glaze and Syrups

Custard filling is a smooth, creamy type filling similar to pudding. The custard is a cooked filling containing cornstarch, flour, and egg yolks

There are many fruits that can be cooked into a filling for sweet that will provide the cake an extra special flavor.

- Strawberries
- Raspberries
- Peaches

Self-check 3	**Written test**

Name…… ID…… Date…….

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

Short answer

1. Write types of fillings are used in commercial baking and food production
2. Explain methods in which toppings can be applied to dough prior to baking
3. Write types of Filling
4. Define custard filling

Note: **Satisfactory rating 12 points**	**Unsatisfactory below 12 points**

Information Sheet 4- Completing decoration and finishing according to work requirements

4.1 Introduction

This section covers a range of finishing and decorating techniques that used on desserts and puddings. The finish is provided to complement the flavour, texture and colour, and to lift the product visually. This can be achieved by using a variety of products, from simple dustings to nuts, praline, fruit, chocolate and cream.

4.2 Techniques of finishing decoration

4.1.1 Finishing techniques using fresh cream

Cream should be used to enhance a product and not dominate, as it is very rich.

Piped cream – for the best results use an appropriate nozzle, plain or star, in a clean piping bag. Hold the bag in the hand or over a measuring jug and place in the whipped cream. Do not overfill the bag. Squeeze out any air, then twist the bag in between thumb and finger of the piping hand to create a tight bag. Pipe out practice runs onto a clean surface or plate before beginning to decorate the product.

Piped rosettes – hold the piping bag approximately 1cm above the product. Using the top hand to squeeze and the bottom hand to guide, apply even pressure to pipe in a circular motion, raising the bag until the required height is reached.

Running piping – using the same holding technique, hold the bag at approximately 45 degrees to the product, then pipe in a back and forth motion to create a pearl type effect. Using the same technique again, this time use a spiral motion working towards you in a clockwise direction. This can also be contrasted by working the next row anticlockwise.

Quenelle – this is an oval shape achieved by either working the whipped cream in-between two spoons which have been dipped in hot water, or dragging a warmed spoon across the surface of the cream allowing the cream to roll.

4.1.2 Finishing and decorating techniques using chocolate

Chocolate can be used in many ways to finish off or enhance a dessert. You can use several different techniques, such as

- Piping
- Working on acetate
- Piped motifs
- Transfer sheets
- Run outs
- Cut outs.

In order to carry out the above techniques you need to be aware of the following types of and methods of working with chocolate.

The two main types of chocolate used are Bakers/compound chocolate which does not require tempering or, for a better flavour and finish, Couverture chocolate, which needs to be tempered before use.

Bakers/compound chocolate is not really a chocolate; it is a combination of cocoa, vegetable fats and sweeteners and is used mainly for coating purposes.

Couverture is a combination of cocoa, cocoa butter (minimum 32%), sugar and milk powder (milk chocolate). It is a far superior product but does require more skill to work with. Before these techniques can be carried out, all equipment must be to hand (mise en place), clean and dry.

Tempering is the process which gives chocolate three main characteristics:

- Shine – high gloss mirror-like finish
- Snap – good tempering gives a strength to the chocolate which gives a sharp snap when broken

- Retraction – chocolate comes away from a surface due to shrinkage.

Couverture is available in pellet and block form and is already tempered in its delivered state. However, overheating will break the temper and so the chocolate will need to be re tempered.

Piping

This can be done by using a chocolate ganache, a combination of chocolate and cream, using an appropriate nozzle and bag and piping directly onto a product.

E.g. an Easter egg, biscuits or gateau, in an attractive decoration. Do not be tempted to pipe too much decoration: the piping should just be used to enhance the product.

Piped motifs

These are usually done using a paper cone and can be anything from 'Happy Birthday' or a logo (maybe a hotel's name). This technique should be practiced beforehand, as the piping is usually done straight onto a product, e.g. a gateau.

Run outs

Run outs are a more abstract type of decoration used for decorating desserts and gateaux. To ensure even-sized decoration, draw parallel lines onto silicone paper, turn the paper over and, using a paper cone, pipe your decoration using the lines as a guide.

Figure 9 Run out decoration

Acetate

This is a clear plastic sheet. The chocolate is evenly spread out and allowed to set, then cut out or broken. This gives a high gloss shine to the finish.

Transfer sheets

These are pre-made sheets of plastic with printed, coloured cocoa butter designs. The sheets are spread evenly with tempered chocolate and allowed to set and can then be broken into abstract shapes or cut out. Tempered chocolate can also be dragged onto a sheet to give a petal effect.

Cut outs

After coating the transfer sheets, allow the chocolate to set to just touch dry, then the chocolate can be cut freehand into shape, e.g. triangles, wavy lines etc. Alternatively, cutters such as fluted or plain pastry cutters can be used.

Other techniques

Dusting with icing sugar or cocoa powder from a fine sieve or muslin cloth lifts the presentation from the plate. Ground dried fruits can also be used.

Praline is a combination of caramel and toasted skinned hazelnuts mixed together, allowed to set and finally ground into a powder.

Nuts can be used in various ways from being skinned and left whole to being finely chopped or powdered. Use a single type, such as pistachio, or a combination.

Figure 10 nut decoration

Fruits are also used. they should always be used in season for best flavour and price and they should complement the dish they are served with, e.g. sharp fruits, such as raspberries, work well with sweet white chocolate. Tossing the fruit in some coulis or icing sugar will give an extra glaze or shine.

Figure 11 fruit décor.

Self-check 4	**Written test**

Name…… ID…… Date…….

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

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

Part B

1. Running piping
2. Run outs
3. Quenelle
4. Piped rosettes
5. Piped cream
6. Acetate

Part B

A. For the best results use an appropriate nozzle, plain or star, in a clean piping bag
B. Hold the piping bag approximately 1cm above the product
C. Using the same holding technique,
D. This is an oval shape
E. Are a more abstract type of decoration used for decorating desserts and gateaux
F. A clear plastic sheet

Note: **Satisfactory rating 12 points**	**Unsatisfactory below 12 points**

LG 29	LO 4 Cost and price

Instruction sheet
This learning guide is developed to provide you the necessary information regarding the following content coverage and topics: • Costing product ingredients and estimating production costs • Pricing product within business pricing policy • Measuring actual costs with estimated costs 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: • Cost product ingredients and estimating production costs • Price product within business pricing policy • Measure actual costs with estimated costs
Learning Instructions:
Read the specific objectives of this Learning Guide. 1. Follow the instructions described below. 2. Read the information written in the information Sheets 3. Accomplish the Self-checks 4. Perform Operation Sheets 5. Do the “LAP test”

Information Sheet 1- Costing product ingredients and estimating production costs

The costs involved in creating a product are called Product Costs. These costs include materials, labor, production supplies and factory overhead. Production or product costs refer to the costs incurred by a business from manufacturing a product or providing a service. The cost of the labor required to deliver a service to a customer is also considered a product cost. Product costs related to services should include things like compensation, payroll taxes and employee benefits.

Types of Product Costs

Costs incurred to produce a product intended to sell to a customer is called Product Costs. Product cost includes:

Direct material: raw materials bought that go directly into producing the products. For example, the flour to make a cake is a direct material cost for a cake manufacturer.

Direct labor: the wages, benefits, and insurance that are paid to employees directly involved in manufacturing and producing the goods. For example, workers on the assembly line or those who use the machinery to make the products.

Manufacturing overhead: indirect factory-related costs that are incurred when producing a product. Manufacturing overhead costs include:

- **Indirect material:** materials used in the production process but are not directly traceable to the product. Examples include glue, oil, tape, cleaning supplies, etc. are classified as indirect materials because it would be difficult to determine the exact cost of the materials that go into the production.
- **Indirect labor:** the cost of wages for the labor of those who are not directly involved in the production like security guards, supervisors, and quality assurance workers in the factory.

- **Other costs** such as factory lease, utilities and insurance.

Typically, the cost of a product on a unit basis is derived by accumulating the costs associated with a batch of units that were produced as a group and dividing by the number of units manufactured.

The formula for Product Cost is:

Product unit cost = (Total direct labor + Total direct materials + Consumable supplies + Total allocated overhead) ÷ Total number of units

Self-check 1	**Written test**

Name…… ID…… Date…….

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

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

Short answer

What is the formula for Product Cost?

Note: **Satisfactory rating 10 points**	**Unsatisfactory below 10 points**

Information Sheet 2- Pricing product within business pricing policy

2.1. Introduction

Price goes by various names-freight, fare, license fee, tuition fee, professional charge, rent, interest, etc. But price in an enterprise/business system is seldom so simple. By definition, price is the money that customers must pay for a product or service. In other words, price is an offer to sell for a certain amount of currency. Pricing of the product is something different from its price. In simple words, pricing is the art of translating into quantitative terms the value of a product to customers at a point of time. Someone has opined that, “The key to pricing is to build value into the product and price it accordingly.” Bakers and Bakerettes; especially those just getting into the baking industry or looking to start seriously baking for business in order to earn some income; struggle with how to cost their products correctly.

2.2. Pricing Strategy

Marketers who use undifferentiated pricing strategies keep their prices similar for all customers. There is little need to vary prices, especially when product and service lines are limited. However, a differentiated pricing strategy is much more common. One reason is that incomes can vary widely among customers. Therefore, a small company may want to sell premium products to higher-income customers and discount items to those who earn less. Customers who want more features or all the bells and whistles also tend to pay more.

2.2.1 Premium Pricing

- This refers to costing a product at a high price due to its high quality.
- This strategy is used for luxury custom and/or wedding cakes that are usually packaged really well. Or other high quality and artisan baked products.

- The target market is usually consumers looking for good quality, who aren't worried about budget.

2.2.2 Penetration Pricing

- This refers to when you enter the market with a really low price that you will later increase.
- It's a good strategy when you're new in the baking industry and want to penetrate the market quickly.
- You need to make sure that you inform your customers – that the price you're selling at is a discount or sale price and that it's going to increase later.

2.2.3 Economy Pricing

- This strategy is used for low-budget, fast-moving products like breads, cookies and commercial cupcakes/queen-cakes.
- If your target market is low-budget, you can offer them fast-moving products at a low price.
- In order to make a profit, you have to mass produce, keep your costs low and make a lot of daily sales.

2.2.4 Price Skimming

- This is when introducing a new product (or technique) into the industry; pricing it really, really high and then as it gets saturated in the market, your price comes down.
- This strategy is used for products that the industry has never heard or seen, which is rare in the baking industry. Though it works very well on new decoration techniques and styles/designs in the cake decorating industry

2.2.5 Psychological Pricing

- Refers to using numbers to psychologically affect client's decision to purchase e.g. Ksh.999 instead of Ksh.1000.
- The aim is to attract customers by making it look as if that product is actually cheaper than it really is.

2.2.6 Promotional Pricing

- This is when you offer discount pricing during a certain season, such as Valentine's Day and other holidays, or for specific products, such as BOGO (Buy One, Get One half off).
- This strategy should be used often in your business, at different times of the year.

Importance of Choosing the Right Pricing Strategy

- You're able to price well for your target market
- Attracting the right clients in the right niche will help you make sales. Examples: Using the economy pricing strategy for your luxury cakes will make your target market wonder why they're so cheap. The premium pricing strategy can't work for a low-budget target market that can't afford highly priced products.

To ensures pricing for Profit Company:

- Using the wrong pricing strategy that make any profit.
- It ensures that you know your niche; this enables you to choose the right pricing strategy and price your products in a way that helps you make a profit

Self-check 2	**Written test**

Name…… ID…… Date…….

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

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

Part A

1. Economy Pricing
2. Penetration Pricing
3. Price Skimming
4. Promotional Pricing
5. Psychological Pricing

Part A

A. Costing a product at a high price due to its high quality.
B. When you enter the market
C. Used for low-budget
D. When introducing a new product (or technique) into the industry
E. Using numbers to psychologically affect client's decision
F. Discount pricing

Note: **Satisfactory rating 12 points**	**Unsatisfactory below 12 points**

Information Sheet 3- Measuring actual costs with estimated costs

Actual costing is a cost accounting system that uses actual cost, direct-cost rates, and actual qualities used in production to determine the cost of specific products. Usually an actual costing system traces direct costs to a cost object or something that has a measurable cost.

In other words, managers go back to the source of the costs (cost objects) like labor and materials. Managers can analyze how many hours of manufacturing time a product requires to calculate the actual costs of producing that product.

Actual costing is used for measuring the actual cost of a batch and the average actual cost of making a specific product.

Differences between actual costing and regular costing

Different purpose

The regular costing is used to calculate the cost of a product, so we will make sure the sale price will allow us to make a profit. The regular costing is made usually in the beginning of a product life in order to decide on a sale price. The regular costing is updated once in a while, usually a long while. Actual costing calculates the real cost of each batch, and therefore we always know what the real cost of production for each batch and each product is.

Assumptions

Regular costing assume ideal production cost or average production cost, while actual costing is taking the real cost of a batch. **For example:** Regular costing might assume 2% scrap while in actual batch production we might get only 1% or even 5%. We can see it in the following figure: Regular costing assume that 1000 units will cost 3000$ to produce, but each batch has a different cost. Sometimes more and sometimes less.

Actual ver. assumptions – We calculate the regular costing in order to find the right sale price and to make sure we will make a profit. Actual costing allows us **to know** just how much profit we made for each customer order.

Find production problems/opportunities – Actual costing will sort out the problematic production costs /shipping costs /support costs that we did not take into consideration in the regular costing we did in the past. On the other end of the scale, we will find the products that we are producing in a much cheaper way than we predicted in the regular costing that is based on averages.

Costing is based on 3 elements

- **Direct cost** – All costs that will change if we produce one more product or one more KG of product.
- **Indirect costs of production** – For example**:** production labor cost. If we produce fewer products this month, we usually pay the same to the production employees.
- **Indirect costs of the rest of the organization** – wages, sales salaries, and everything that is not related to production.

The result of the costing is a cost per product or a cost per KG or any other unit that sales use to sell our products. For the purpose of this post, I will use cost per product unit, but you can do the same with any other units that your organization is using.

- **Material cost**

We should take the whole amount of material that we consume for the batch including all the waste and defects. You can calculate it like this:

Amount consume = Amount of raw material taken from the warehouse for this batch – Amount of raw material returned to the warehouse for this batch

We do the above calculation for every raw material. Then we multiply it by standard cost or purchase cost of raw material. We can now know the raw material of the whole batch by adding every cost.

Now we will divide the total cost by the amount of GOOD units we produce, that way the GOOD units take into consideration the cost of all the defects.

Material cost per unit = Total cost of raw material per batch / Number of Good units per batch

- **Energy costs**

We need to quantify the amount of energy that we use in each batch.
If you have electricity meter in front of your tool, then you can take the information from there. If we don't have that, we can calculate the amount of energy we use per tool hour. We can take it from the tool book or calculate it like this:

- Energy cost per tool hour = cost of electricity per hour X (electricity use per month or year / number of working hours)

- Energy cost per batch = number of working hours per batch X Energy cost per tool hour

- Energy cost per unit = Energy cost per batch / Good units

- **Direct labor cost**

We only take costs that can be connected directly to the amount of product that we produce. Possible calculation if the packing workers are getting paid by the hour goes like this:

Direct labor cost per unit = (Number of packing hours in the batch X number of workers X Hourly payment) / Good units

Packing materials – the cost of materials used for the batch / Good units

Indirect production costs

This is the hardest part to calculate since it requires a lot of thinking on which cost should we take and how to distribute it. The regular costing will take all the costs and distribute it equally upon units/KG/working hours or any other unit. We will do almost the same but with a small change and a big impact.

Elements we will take into accounting: Every production cost that have no direct link to a batch but have a connection to the volume of production.
If we have only one production phase that is similar among the products, then we can just sum all the annual expenses and divide it by the number of good units we produce in a year. The result will be added to each unit.

In many cases, we will have a different and more complex production. We might have more than one step production. Each step will have tool hours or working hours. Let's assume we will take the working hours of the people that worked on the batch.

Self-check 3	**Written test**

Name…… ID…… Date…….

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

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

Short answer

1. Write the formula of:
   - Material cost
   - Energy costs
   - Direct labor cost
2. Write elements of costing

Note: **Satisfactory rating 12 points**	**Unsatisfactory below 12 points**

LG 30	LO5. Prepare final product for display or storage

Instruction sheet

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

- Estimating product shelf life and identifying storage conditions
- Preparing product for display or presentation
- Selecting packaging to enhance appearance and preserve quality
- Storing product under the correct conditions and maintain quality

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:

- Estimate product shelf life and identifying storage conditions
- Prepare product for display or presentation
- Select packaging to enhance appearance and preserve quality
- Store product under the correct conditions and maintaining quality

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- Estimating product shelf life and identifying storage conditions

Storing your food properly and under the best condition possible will extend its life to its maximum potential. Some foods can be stored at room temperature and some must be refrigerated. Freezing can be used to extend the life of many products. To get the most out of the storage areas, certain conditions must be maintained.

Shelf Storage - Shelf storage should be in a cool, dry area. Many food items should also be kept out of direct light. The temperature should be keep at 70° F or below.

Refrigerator Storage - The refrigerator should be kept at a temperature between 33° F to 40° F. Check the temperature frequently with a refrigerator/freezer thermometer.

Freezer Storage - The freezer should be kept at a temperature of 0° F or below. Check the temperature frequently with a refrigerator/freezer thermometer.

Organizing Storage Area

Organizing your storage areas will give you more room and easier access to the stored food. Having food organized in the refrigerator and freezer will also help save energy by allowing quicker access to the food you are retrieving. The more time that the refrigerator or freezer is open, the more the temperature will drop. This causes the appliance to have to run more to get the temperature back down to what it needs to be, so quick access is important for energy saving.

Shelf Storage

- Using dressing table on shelves that hold small items or where items would be several deep.

- Use shallow organizer shelving in tall, deep shelves to add layers for stacking small or shorter items.
- Use wire or plastic baskets to hold odd shaped or bulky items.
- Store opened items, such as pasta, rice and cereals, in clear plastic or glass containers with tight fitting lids to keep them fresh and easily visible. Clear self-sealing bags can also be used.
- If you have a pantry with empty walls, add more shelving or stackable bins.
- When organizing items, place like items together to make it easier to remember where items are store. Store baking ingredients together, canned goods in one area, and dry ingredients in another.
- When adding items to storage, be sure to place newest products in back of what is already on the shelf so that older items get used first.

Table 1: storage condition and storage of dessert

Food Item	Refrigerator Storage	Freezer Storage
Bread	1 week	3 months
Cakes, with Cream Filled, Whipped Topping, or Cream Cheese Frosting	4 to 5 days	3 months
Pies, Custard	2 to 3 days	Do Not Freeze
Pies, Fruit	3 to 4 days	6 to 8 months
Cookie Dough	4 to 5 days	2 to 3 months
Cookies, Baked	1 week (Room Temperature)	3 months
Cookies, Containing Cream Cheese or Cream Frosting	3 to 5 days	3 months

Meringue is not a stable structure and has a short shelf life of about two weeks if stored properly. Meringue is a hygroscopic food, which means it absorbs water from the air. The

high sugar concentration in the meringue absorbs moisture from the air and will cause the meringue to become soft and chewy. The more water that is absorbed, the heavier the meringue becomes. After enough water is absorbed, the meringue will become too heavy for the foam structure to support itself, and it will start to collapse. Meringue is so susceptible to absorbing water that a rainy day may disrupt the foam structure formation and make it impossible to form a meringue.

Storing meringues in an airtight container will prevent humidity from affecting the sugar. It is also recommended to store the meringue in a cooler area. If the meringue is stored in these conditions, its shelf life will be about two weeks. To extend the shelf life up to about three months, the meringue can be stored in the freezer. The colder temperatures in the freezer decrease the humidity. The meringue should still be stored in an airtight container, preventing water from affecting the meringue.

Self-check 1	**Written test**

Name…… ID…… Date…….

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

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

True or false

1. Storing your food properly and under the best condition possible will extend its life to its maximum potential
2. Freezing can be used to extend the life of many products

Note: **Satisfactory rating 12 points**	**Unsatisfactory below 12 points**

Information Sheet 2- Preparing product for display or presentation

2.1. Introduction

In the most technical sense, a great meal doesn't have to look good. Consider some top dishes you've made for yourself at home, where plating simply wasn't a consideration. However, great plating instantly creates a sense of professionalism in the mind of eaters and offers an exciting element of a meal that many can't recreate with the same skill in their own cooking efforts.

2.2. Three essentials of dessert presentation

Making desserts look good requires that the pastry chef pay careful attention to all of his or her tasks. To create attractive plated desserts, the chef should observe three basic principles. Note that only the third one concerns the actual design of the plating.

2.2.1 Good basic baking and pastry skills.

A pastry chef cannot make superior plated desserts without having mastered basic skills and techniques. Individual components must be properly prepared. If puff pastry doesn't rise evenly and well because the chef hasn't mastered correct rolling-in techniques, if cake layers have poor texture because of incorrect mixing methods, if a slice of cake is poorly cut, if sauces have poor texture, or if whipped cream is over whipped and curdled, then no fancy plate design will correct those faults.

2.2.2 Professional work habits.

Plating attractive and appealing desserts is partly a matter of being neat and careful and using common sense. Professionals take pride in their work and in the food they serve. Pride in workmanship means that chef's care about the quality of their work, and do not serve a dessert they aren't proud of.

2.2.3 Visual sense.

Beyond being neat, effective dessert presentation depends on a thorough understanding of the techniques involving balance of colors, shapes, textures, and flavors, and learning how to arrange the dessert, garnish, and sauce on a plate to achieve this balance.

Flavor First

“Too much presentation and not enough flavor.” That is an often-expressed opinion of some of the complicated towering constructions that were common on dessert plates not long ago. It is true that you can be more structural with dessert presentations than with hot food. It is also true, as the saying goes that “the eye eats first.” But it is important to remember that food is still food. After the customers have dismantled the structure on the plate and finished eating the dessert, it is the flavor or lack of it they will remember. The presentation should enhance the flavor experience, not cover up a lack of flavor.

Simplicity and Complexity

Offering the best and freshest flavors on the plate frequently means knowing when to stop. It is often harder to leave a presentation alone than to keep adding to it. One pastry expert has writ-ten that a good chef can take a great peach and make something original and inventive out of it, but a great chef will know when to let the peach speak for itself. When you are using the best ingredients, often a simple presentation is the best, and the more complexity you add, the more it distracts from the flavors. This doesn’t mean there is no place for complex presentations on dessert menus. It is good practice to offer customers variety.

Furthermore, elaborate presentations often draw attention in the dining room and stimulate additional sales and so raise check averages. One argument for elaborate dessert presentations is that customers should be offered desserts they can’t, or probably wouldn’t, prepare at home. For some people this may be true, but many others are attracted most of all too familiar comfort foods.

The creative pastry chef can find ways to satisfy both types of customers with a varied dessert menu. Even when presenting home-style desserts, chefs can add a distinctive touch in the form of garnish or sauces, while keeping the base of the dessert recognizable. Even more important, they can make the base dessert so well that even the familiar is lifted to a new level of excellence.

A pastry chef's hours vary from establishment to establishment, but in many cases he or she starts early, finishes all the baking, and goes home before dinner service begins. Desserts are then plated by the kitchen staff, or even the dining room staff. If the pastry chef's artful de-signs are too complex for these other staff members to construct properly, simpler presentations are probably advisable.

Customers love desserts. However, not all customers order them. Variety is the key—offering something for everyone. A sizable number of diners are simply too full after a satisfying restaurant meal to order a large, rich dessert; but they would welcome a little sweet. In the average restaurant, perhaps two-thirds, at most, of the diners order dessert. Of the remaining third, some undoubtedly would order dessert if something light and refreshing were on the menu. Therefore, when planning for variety, don't neglect to include lighter, simpler presentations to appeal to diners with smaller appetites.

2.3. Guidelines for dessert presentation

- If most dessert presentations are elaborate or complex, at least one or two simple comfort foods included
- Concerning convenience of the diner. Don't making the dessert into a presentation that is difficult or awkward to eat.
- For each presentation, selecting plates large enough to hold the arrangement without over-crowding (but not so large that the dessert looks sparse on the plate).

Besides looking sloppy and unprofessional, desserts falling over the rims of plates risk spilling onto the customer.

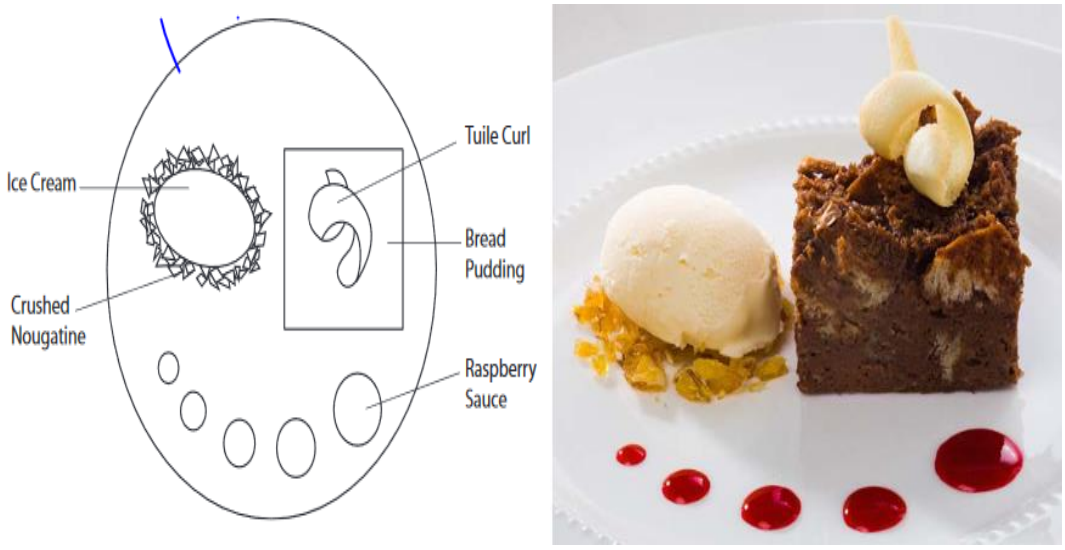


Figure 12 Chocolate bread pudding presentation

Many of the rules of proper plating apply to platter arrangement as well for example, those that call for neatness, balance of color and shape, unity, and preserving the individuality of the items.

Following are a few more guidelines that apply to hot platter presentation and garnish.

- Vegetables should be in easily served units. In other words, don't heap green peas or mashed potatoes on one corner of the platter. More suitable are vegetables such as cauliflower, broccoli, boiled tomatoes, whole green beans, mushroom caps, or anything that comes in large or easy-to-handle pieces. Small vegetables such as peas can be easily served if they are used to fill artichoke bottoms, tomato halves, or tartlet shells.
- Have the correct number of portions of each item. Vegetables like Brussels sprouts carrots are easily portioned in the dining room if they are arranged in little portion-size piles.

- Arrange the garnishes around the platter to get the best effect from the different colors and shapes. The meat, poultry, or fish is usually placed in the center of the platter, or in a row arrows, and the garnishes arranged around it.
- Avoid being too elaborate. While it is sometimes desirable to make ornate platters, simplicity is usually prefer able to an overworked appearance. Let the attractiveness of the food speak for itself. The garnish should never dominate or hide the meat, which is the center of attention.
- Serve extra sauce or gravy in a sauce boat. If it is appropriate, dress or nap the meat or fish items with some of the sauce, but don't drown the entire platter with it.
- Serve hot foods hot, on a hot platter. Don't spend so much time arranging the food that it's cold by the time it reaches the dining room.

Self-check 2	**Written test**

Name…… ID…… Date…….

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

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

Short answer

1. Write the three essentials of dessert presentation
2. List guidelines for dessert presentation

Note: **Satisfactory rating 10 points**	**Unsatisfactory below 10 points**

Information Sheet 3- Measuring actual costs with estimated costs

3.1. Introduction

Cost of production refers to the total cost incurred by a business to produce a specific quantity of a product or offer a service. Production costs may include things such as labor, raw materials, or consumable supplies. In economics, the cost of production is defined as the expenditures incurred to obtain the factors of production such as labor, land, and capital that are needed in the production process of a product.

3.2. Types of Costs of Production

There are various types of costs of production that businesses may incur in the course of manufacturing a product or offering a service. They include the following:

2.2.1 Fixed costs

Fixed costs are expenses that do not change with the amount of output produced. This means that the costs remain unchanged even when there is zero production or when the business has reached its maximum production capacity.

2.2.2 Variable costs

Variable costs are costs that change with the changes in the level of production. That is, they rise as the production volume increases and decrease as the production volume decreases. If the production volume is zero, then no variable costs are incurred.

2.2.3 Total cost

Total cost encompasses both variable and fixed costs. It takes into account all the costs incurred in the production process or when offering a service

2.2.4 Average cost

The average cost refers to the total cost of production divided by the number of units produced. It can also be obtained by summing the average variable costs and the average

fixed costs. Management uses average costs to make decisions pricing its products for maximum revenue or profit.

The goal of the company should be to minimize the average cost per unit so that it can increase the profit margin without increasing costs.

Marginal cost is the cost of producing one additional unit of output. It shows the increase in total cost coming from the production of one more product unit. Since fixed costs remain constant regardless of any increase in output, marginal cost is mainly affected by changes in variable costs. The management of a company relies on marginal costing to make decisions on resource allocation, looking to allocate production resources in a way that is optimally profitable.

3.3. Calculation of the Cost

The first step when calculating the cost involved in making a product is to determine the fixed costs. The next step is to determine the variable costs incurred in the production process. Then, add the fixed costs and variable costs, and divide the total cost by the number of items produced to get the average cost per unit.

$$\text{Average Cost Per Unit} = \frac{\text{Fixed Costs} + \text{Variable Costs}}{\text{Total No. of Items Produced}}$$

For the company to make a profit, the selling price must be higher than the cost per unit. Setting a price that is below the cost per unit will result in losses. It is, therefore, critically important that the company be able to accurately assess all of its costs

Self-check 3	**Written test**

Name…… ID…… Date…….

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

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

Part A

1. Fixed costs
2. Variable costs
3. Total cost
4. Average cost

Part A

A. total cost of production divided by the number of units produced
B. Total cost encompasses both variable and fixed costs
C. expenses that do not change with the amount of output produced
D. costs that change with the changes in the level of production

Note: **Satisfactory rating 12 points**	**Unsatisfactory below 12 points**

Information Sheet 4- Storing product under the correct conditions and maintain quality

As many desserts contain egg and dairy products, they present a potential health hazard if not stored properly. Proper storage means cooled desserts must be covered with plastic or placed in lidded containers before storing in the cool room.

Desserts containing uncooked eggs should be handled with extreme care, as raw egg is a medium in which dangerous bacteria such as salmonella can thrive. This means you need to be really careful with foods like chocolate mousse and uncooked cheesecakes that contain egg whites for preparation.

Egg custards contain protein, which provides good food for bacteria. If custards are not heated and cooled properly and quickly, bacteria that are present in the custard can grow quickly to dangerous numbers

Any dessert that is not required for immediate consumption must be cooled rapidly and stored in the cool room until required.

If you plan to keep a pre-prepared dessert hot until service, make sure that the temperature of the food is over 65^{o}C. Never leave an egg mixture in a Bain-Marie for any length of time. Any dessert that has been kept hot in the Bain-Marie for a while should be discarded at the end of service.

If milk and cream are used in desserts like trifle and custards, they must not be left to stand at room temperature for any length of time. They should be kept in the refrigerator until the last possible moment to prevent the risk of food poisoning.
Many desserts have a limited storage life. Make sure you check with your supervisor and follow organisational requirements.

Packaging Materials for Storing Desserts

- Glass container
- Plastic container
- plastic/cellophane
- Aluminum foil
- Packaging tapes
- Boxes

Equipment for storage of dessert

- Chiller
- Freezer
- Refrigerator

Sanitary Practices When Storing Desserts

- Handling the food properly to prevent spoilage and contamination.
- Washing utensils and equipment thoroughly.
- Keeping away from food when you are ill.
- Storing foods and ingredients properly.
- Safeguard the food during distribution and service.

Storage Techniques

- 1. Refrigerate – to keep cold or cool
- 2. Cold Storage – the process of storing food by means of refrigeration
- 3. Chilling – to refrigerate or to reduce the temperature of food

Storage condition of frozen dessert

Five guidelines are essential to the proper storage and service of churn-frozen desserts:

- Storing ice creams and sherbets below 0°F (–18°C). This low temperature helps prevent the formation of large ice crystals.
- To prepare for serving, temper frozen desserts at 8° to 15°F (–13° to –9°C) for 24 hours so they will be soft enough to serve.
- When serving, avoiding packing the ice cream. The best method is to draw the scoop across the surface of the product so the product rolls into a ball in the scoop.
- Using standard scoops for portioning ice cream. Normal portions for popular desserts are as follows:
  - ✓ Parfait — Three No. 30 scoops
  - ✓ Banana split — Three No. 30 scoops
  - ✓ Topping for pie or cake — One No. 20 scoop
  - ✓ Sundae — Two No. 20 scoops
  - ✓ Plain dish of ice cream — One No. 10, 12, or 16 scoop
- Measuring syrups, toppings, and garnishes for portion control. For syrups, use pumps that dispense measured quantities, or use standard ladles.

Self-check	**Written test**

Name…… ID…… Date…….

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

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

True or false 4 pts. For each

1. Proper storage means cooled desserts must be covered with plastic or placed in lidded containers before storing in the cool room.
2. Hot Storage is the process of storing food by means of refrigeration
3. Many desserts have a limited storage life

Note: **Satisfactory rating 12 points**	**Unsatisfactory below 12 points**

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