## Cakes, Beverages and Salads



## **Learning Objectives**

- Gain knowledge about the functions of ingredients, principles involved in cake preparation, types of cake and quality of cake
- Identify the different types of beverages and their preparation
- Know the importance and health benefits of different types of salads
- Develop skills in carving vegetables, fruits, butter and ice.

## 4.1 Cake Making – Types, Procedure

Cake is the most common and important bakery product. This is served as snacks as well as dessert too. It is developed by modification of the ingredients used for the bread. Many varieties of cakes are available in the market. Cake can be made in simpler form or in rich form by including icings or chocolate decorations. Cake is also



Plate 4.1 Cake

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served as a celebratory dish on ceremonial occasions, such as weddings, anniversaries, and birthdays. A good baker can prepare attractive and tasteful cakes based on the occasion and the customer's need.

## 4.1.1 Types of cake

There are different varieties of recipes developed globally. The main ingredients like maida, sugar, eggs, butter and leavening agent like baking powder remain the same whatever may be the variety of cake. The flavouring agents in cake preparations are vanilla essence, cocoa, nuts like badam, chestnut, dry fruits like raisins, fig and pulp of fresh or canned fruits. Pastry cream, butter cream, or other icings are used to decorate cake.

There are different types of cake. For example, plain cake, fruit cake, sponge cakes and cream cake. All these types of cake come under two basic categories namely, cream and sponge cake.

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Plate 4.2 Cream Cake Plate



Plate 4.3 Sponge Cake

## 4.1.2 Equipment used in Baking

i. **Measuring Jug/Jar:** Used to measure all types of liquids in litre.



4.4 Baking Trays

ii. Wire Whisker: Used for whisking egg and cream and helps to aerate with air.



Plate 4.5 Wire Whisker

- iii. **Turn Table:** Used while icing on the cakes and pastries.
- iv. Strainer: Used for straining the liquids to remove impurities.
- v. **Spatula:** Can be made of wood, plastic or rubber material and is used for removing batter or mixture from the bowl.



Plate 4.6 Spatula

vi. **Piping Bag:** Used while piping the batters, cookies mix, cream icing etc.



Plate 4.7 Piping Bag

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vii. **Basin:** A large bowl used for making dough, batter or for storage of food.

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- viii. Muffin Tray: A kind of baking tray for baking the batter of muffins.
- ix. Fancy Mould: Used for the baking of different fancy cakes.
- **x.** Cake Mould: used for obtaining desired shape.
- xi. Pallet Knife: A knife with parallel and without any sharp edges, used for the different products like cakes, icing etc.
- xii. Bread Knife: A long knife with one edge with the grooved like saw used for cutting of cakes and breads.



Plate 4.8 Bread Knife

- xiii. Measuring Spoon: Used for measuring the dry ingredients in small quantity.
- xiv. Baking Tray: Used for baking breads, biscuits, pizza cakes.
- xv. Weighing Scale: Used for weighing the raw materials in the unit of grams and kilograms
- xvi. Two Deck Ovens: Used for baking two different products at different baking temperatures



Plate 4.9: Pallet Knife

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- xvii. Single Deck Oven: An oven with the single deck used for baking.
- xviii. Table Top Planetary Mixer: An equipment with the three attachments - kneader, whisker and creamer for different methods of preparations in bakery and confectionery
- **xix. Tray Rack:** A rack to place the baked products and baking trays.
- **xx. Bread Slicing Machine:** A machine used for slicing bread and cake loaves



Plate 4.10 Bread Slicer

## 4.1.3 Ingredients used in cake preparation

The basic ingredients used for cake preparation are soft wheat flour (or the flour which is used for bread preparation), sugar, fat, and eggs.



## Optional ingredients for cake preparation

The optional ingredients are salt, milk, water, leavening agents, flavouring agents and fruits.

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## (i) Basic ingredients

Flour - Normally a mixture of soft and medium flour in a particular proportion is used for rich cakes like wedding cakes, Christmas cakes and special birthday cakes



## Plate 4.11 Basic Ingredients

## **Functions**

- Provide good structure
- Determine the shelf life of product.
- Improve nutritional merits
- Act as an absorbing and a binding agent
- Improve the adhering capacity of ingredients and distributes evenly in the mixture.

#### Sugar

Coarsely powdered sugar is more suitable for cake making. Liquid sugars like honey, molasses, invert sugar can also be used. These impart special flavour and improves colour of cake crust.

## **Functions**

- Provides taste
- Acts as a tenderizer
- Holds moisture

- Helps in acquiring volume in cakes
- Gives a golden brown crust colour when caramelized.



**Caramelization** is the oxidation of sugar, a process used extensively in cooking for the resulting nutty flavour and brown colour

## Fat

**Fat** is the main ingredient in cake preparation.

## **Functions**

- Helps the product to be tender
- Improves shelf life by holding the moisture for a longer time
- Enhances the flavour and aroma
- Provides nutritional importance as well as softness.
- Holds the air during creaming.

#### Eggs

Fresh eggs are used for cake preparations. Eggs should be at room temperature (21-24°C) at the time of adding into the mixture. Eggs are beaten during creaming operation because once the eggs are beaten, the small air cells are incorporated and it will increase the number of air cells in the mixture.

### **Functions**

- Provides structure, gives moisture and colour
- Improves the flavour, taste, volume

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- Gives nutritional value
- Improves the grain and texture
- Gives softness
- Lecithin present in the yolk acts as an emulsifier
- Entraps air and becomes an aerating agent during beating egg

#### ii. Optional ingredients

## a. Fruits and Nuts

Fruits should be washed and drained properly. The washed fruits should be spread on dry cloth to remove excess moisture. It should be finely chopped before adding into the mixture, the fruit size should be even, otherwise it will sink at the bottom of the cake. If the fruit contains moisture it will breakdown during mixing, discolour the batter and sink at the bottom. Nuts should be soaked in water until they become soft (for about half an hour) before use. Fruits and nuts are added at the last stage of mixing in batter.

#### b. Addition of Salt

- Gives the flavour and taste.
- Lowers the caramelization temperature of the sugar, and improves the crust colour of the cake
- Keeps the cake moist and improves quality of the texture
- Helps to improve the natural flavour of the ingredients
- Reduces the extra sweetness in the preparation of some special formula cakes where more sugar is needed.

#### c. Addition of Milk

- Builds the structure
- Helps to bind the flour proteins
- Keeps the cake tender
- Helps to retain the moisture
- Improves the nutritive value, taste and flavour
- Contains lactose which helps to give crust colour
- Improves the keeping quality.
- d. Addition of Water
- Combines all the dry ingredients together.
- Builds structure of cakes and maintain the batter consistency
- Retains moisture in the cake.
- Improves the shelf life.
- It helps to release carbon dioxide gas from baking powder and formation of vapor pressure.

#### e. Addition of Leavening Agents

- Increases the volume of the products.
- Makes the product tender and soft
- Enhances the crumb colour, taste and smell (aroma)
- Improves the digestion quality.

## **Cake Faults**

For the quality cake, it is essential to use quality raw materials and should follow correct measurements, methods, processing and baking. If there are any changes or mistakes it will affect the quality of cake. This is called as faults.



Plate 4.12 Sunken Cake





## Table 4.1 Common Faults in Selection of Ingredients for Preparation of Cakes

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	Possible causes	Effects
Flou	ır	Forms peak in center, tough and dry cakes
a)	Using too strong flour	May flatten out or sink, cause wet streak and
b)	Too weak flour	may crumble.
Sug	ar	Prevents entrapping of air cells and takes
a)	Too large grain of sugar	more time to dissolve.
b)	Too fine grain of sugar	Dissolve quickly and leads to poor aeration.
Fat		Has a poor creaming quality result in poor
a)	Granular fat	volume and coarse texture.
b)	Very hard fat	Not cream up well
c)	Very soft fat	Will not retain air while creaming
Eggs		
a)	Too cold eggs	Fat will breakdown and affects aeration
b)	Addition of too much egg at a time	Improper mixing

## 4.1.4 Methods used for the preparation of cakes

The following methods are involved in the cream/butter cake and sponge cakes making processes:

- 1. Sugar batter method
- 2. Flour batter method or two-sponge method

- **3**. Blending method
- **4**. Boiled method
- 5. All-in-process method
- 6. Foaming method or sponge method
- 7. Sugar water method

These methods differ from one another by way of mixing, quantity of ingredients used, baking temperature and baking time.

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**Figure 4.1** Sugar Batter Method

In sugar batter method, all the fat is creamed until it gets light white colour. Then sugar is added gradually continuing the creaming process. Do not add all the sugar at a time, it will affect the aeration process and will take more time to achieve the desired results. When

1. Sugar batter method

YOU KNOW?

## How to solve Curdling?

- Add sufficient quantity of formula flour into the mixture. It will absorb the excess moisture and the batter will again become smooth.
- 2. The curdled mixture should be slightly warmed over a pot of warm water. The bowl should not touch the water. If it touches, the fat will melt or egg may coagulate.

adequate aeration is achieved, the fat and sugar mixture will be light and brighter in appearance. Then add beaten eggs gradually into mixture. Adding more eggs at a time will break the fat and sugar and the mixture will be coated by eggs. At that time the mixture will be like "curdle". It will affect the air incorporation.

After adding the eggs the batter will have a smooth light and velvety appearance. Other liquids can be added at this stage. This is done in order to have sufficient moisture in the mix, to prevent toughening of gluten, while mixing flour.

After mixing evenly, add sieved flour into the mixture. It is an important stage in cake making and even slight mishandling of the mixture will spoil the cake. Flour should not be added in one time, but it should be divided into two or three portions and each portion should not be added at a time and mixed with

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straight open fingers with just necessary movements of hand. Because excessive mixing may form the gluten and this toughness will spoil the cake quality.

After folding the flour, if the batter is very stiff, add some quantity of water or milk to adjust the batter consistency.

## 2. Flour batter method

In the flour batter method cream the fat and a quantity of flour not exceeding the weight of fat till it becomes light and fluffy. At the same time, in another machine, beat the egg and equal quantity of sugar till it comes stiff and frothy. Then add the egg and sugar mixture gradually in small quantity at a time into the first mixture. It should be mixed thoroughly and then only the next portion should be added. The remaining sugar is dissolved in milk or water and added to the mixture. Any colour or flavour is also added along with this liquid. Lastly, the remaining flour is sifted and mixed.

The following points should be borne in mind while preparing the cakes in the flour batter method:

In the above case, milk or water, part of sugar, part of flour equal to that of milk are mixed into a smooth paste and added. The remaining flour should be sifted with baking powder and added at the last stage of mixing.

As in this method, it is possible to control the curdling and gluten formation. This method is suitable for lean cakes because lean cakes acquire most of the aeration due to baking powder and there is no risk of losing aeration achieved in fat.

## 3. Blending Method

In the blending method, fat, flour, baking powder and salt are whipped



Figure 4.2 Flour Batter Method

together till the mixture comes to a very light and fluffy condition. Sugar, milk or any other liquids, colour and essence are mixed together added into the previous mixture. Eggs are added and the whole mass is mixed to a smooth batter. This method is suitable for high ratio cakes. High ratio cake means the quantity of sugar is more than the quantity of flour. Sometimes special cake flour and butter are used for such cakes.

## 4. Boiled method



Plate 4.14 Boiled Method

In the boiled method, butter or fat is heated with water till the boiling point is reached. After heating remove from the fire and add 2/3 of flour and mix it thoroughly. And beat the eggs and sugar until it becomes stiff and add colour and essence. Then this mixture is added into the previous mixture gradually. It is mixed thoroughly and the remaining flour can be added at this stage. This is used for making Madeira and Genoese sponge cakes.

## 5. All-in-process Method

In all- in-process method, all the ingredients are mixed together in the mixing bowl. Aeration of the mixture is achieved by controlling the speed of the mixture as well as the mixing time. Wire whip is used for this method because it ensures a faster breakdown of ingredients and it helps to achieve good aeration.

After adding all the ingredients, mixing operation is conducted as follows:

- Slow Speed: In this speed, all the dry ingredients are moistened without flying off from the bowl.
- Fast speed (two minutes): Here the mixture gets even air incorporation.
- Slow speed (one minute): This is done in order to eliminate any possible large air pockets and still finer breaking down of air cells.

## YOU KNOW?

The **all- in-process method** is mainly used for gel sponge. If the formula contains oil, it should be added in the last stage.

Use emulsified type of shortening agents and cake flour for better cakes in all- in-process method.

## 6. Foaming method or Sponge method

In the foaming method, beat the eggs till it becomes fluffy and frothy. During beating, the small air cells are incorporated into the mixture. This air incorporation helps to increase the volume. Then add sugar gradually in continuous beating till it becomes thick and creamy. The essence and colour can be added at this stage. The flour should be sifted with baking powder and added with just necessary movements of hand without disturbing the foam. If it is rough folding

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or uneven mixing, the incorporated air will evaporate. Then the finished product will be of very poor quality and flat one. So this folding stage is very important for baking.

## 7. Sugar water method

In sugar water method, all the sugar and half the quantity of water are agitated in a bowl till the sugar is dissolved completely. Then the remaining ingredients except egg are added and the mixture is well agitated to achieve aeration. Lastly, egg is added and the mixture is cleared. Due to more aeration and better emulsification, the cakes produced in this method have better texture and longer shelf life.

## 4.1.5 Characteristics/Quality of cake or scoring of cake

Following characteristics are considered for scoring a cake

- External characteristics namely

   i) Volume (ii) Colour of the crust
   (iii) Symmetry of form (iv) Crust
   character and (v) Bloom.
- Internal characteristics such as

   Grain ii) Crumb colour iii) Aroma
   iv) Taste v) Texture and vi) Shelf life.

## I. External characteristics

## i) Volume

Cake volume depends on the types of cake and weight of batter. A well-risen cake will have a pleasing appearance with slight convex top surface. A cake should not appear too small or too large for its weight. For example, a cake should be of medium volume so that its interior wall has good appearance and construction.



Plate 4.15 Cake Volume

## ii) Colour of crust

Colour of the crust differs in different types of cakes. So no one term is applicable to all kind of colour. There should be harmony between cake colour and crust colour. The crust should have a pleasing golden brown colour. Too dark or too light or dull colour is not desirable. Crust must have a uniform colour, free foam dark streaks or sugar spots or grease spots.



Plate 4.16 Crust Colour

## iii) Appearance

Cake should have a symmetrical appearance. Peaking, crack in top surface, low sides. Sunken or high center, burst,

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caves in bottom or uneven top are undesirable characteristics of cake.

## iv) Crust-character

The term crust character applies to the condition of the crust and will vary with the type of cake. A good cake should have a thin and tender crust. Thick, rubbery, sticky or over moist, too tender, tough or blistery crusts are indicative of poor quality cakes.

## v) Bloom

The term bloom refers to sheen. A good live colour with brilliance is the sigh of a good bloom.

## **II. Internal characteristics**

#### i) Grain

Grain varies according to the type of cake. Uniform cell size and cell wall are desirable qualities. Coarseness, thick cell walls, uneven size of cells, large holes and tunnels indicate the poor qualities of the cake.

#### ii) Crumb colour

Colour of the crumb should be uniform. It should not have streaks or dark patches, grey, non-uniform dark, light or dull colour.

#### iii) Aroma

Aroma of the cake should be appetizing. The air in the cell structure carries the aroma. A good cake aroma should be pleasant, sweet and natural. Flat, musty, strong or sharp aromas are indicative of poor quality.

#### iv) Taste

Taste is a very important character. It depends on the types of raw materials used in the production of cake. Excess salt and soda will affect the taste. It should be pleasant, sweet and satisfying.

## v) Texture



Plate 4.17 Cake Texture

Texture should be smooth and pliable as felt by the sense of touch. It depends on the physical condition of the crumb and the type of grain. A good texture should be soft, velvety, without weakness and it should not be crumbly. Rough, harsh, too compact, lumpy or too loose textures are not desirable.

## vi) Shelf life

Keeping quality or shelf life is very important in cakes. It varies according to the type of cakes, richness, method and



## How to keep the cake fresh?

Refrigerate cakes with frostings or fillings containing dairy products

Keep cakes with creamy frostings under cover

Cool completely the unfrosted butter cakes, wrap in heavy-duty foil, and freeze.

Freeze frosted cakes in a tightly covered container.

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the ingredients. However, regardless of the type of cake it should have good keeping quality. It should stay fresh or in a moist condition for longer time.

## 4.1.6 Sponge Cakes



Plate 4.18 Sponge Cake

The term sponge cake denotes a light well aerated cake with small even size air bubbles throughout the cake. This cake is made out of eggs, sugar, flour and butter or fat. During beating the eggs with sugar, the small air cells are incorporated and they give volume and softness. This character can be adjusted by making small adjustment in the formula.

Examples of sponge cakes are fatless sponge, Genoise sponge, butter sponge and gel sponge.

## 4.2 Beverages-Coffee, Tea, Fruit Juice

Beverages are prepared with or without little cooking. Beverages are mainly used as drink for the purpose of relieving thirst, fulfilling fluid requirement, nourishing, refreshing the body and mind and also for stimulating or soothing the individual. Water is the base for the preparation of beverages. Boiling water is the healthy method to kill all micro-organisms which are harmful to health and also to remove hardness of water. There is much commercially purified water which is available to satisfy an individual requirement. Beverages are of different varieties. They are hot drinks (coffee, tea, chocolate drink, milk, and malted cereals health drinks), alcoholic drinks (wine, beer, liquors) cold drinks (fruit juice, butter milk, tender coconut and lassi) and carbonated drinks (Fresh lime soda).

## 4.2.1 Classification

Beverages can be classified on the basis of their functions in the human body. Some beverages may have more than one function.

a) Refreshing beverages: They are served in hot weather to relieve from the thirst and to warm up or cool down the body temperature (Eg: Tender coconut water, butter milk, fruit juice)



Plate 4.19 Sweet Lime Juice

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b) Nourishing beverages: These beverages are nutritious health drink help to nourish the body (Eg: Milk shake, fruit juices).



Plate 4.20 Milk Shake

c) Stimulating beverages: They are consumed for their stimulating flavour, taste and refreshing effects (Eg: Tea, coffee and soups).



### Plate 4.22 Milk

e) Appetizing beverages: Soups, small portion of the meal, served ahead of the meal to stimulate the appetite. Appetite increases a desire to consume more foods (Eg: Soups, fruit juices).



## Plate 4.23 Soup

Fermented beverages: They are obtained by fermentation of fruits and vegetables or cereals or milk (Eg: beer, wine, brandy, butter milk, lassi.)







Plate 4.21 Coffee

- d) Soothing beverages: This type of beverages gives comfortable feeling to the consumer and also gives soothing effect to the person (Eg: Warm or cold milk to ulcer patients, hot tea in the early morning of the day).
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## 4.2.2 Coffee

Coffee is the most popular beverage in the world. Brazil is the source of 50 percent world's coffee production. In India, coffee is mainly cultivated in south, mainly in the state of Karnataka, Kerala and Tamil Nadu.

Coffee powder is made from ground, roasted beans (seeds) of *Coffee Arabica* and *Coffee Robusta* species. It is used for preparation of coffee.



Plate 4.27 Roasted Coffee Beans

# Steps involved in making coffee beverage



Plate 4.25 Green Coffee Beans



Plate 4.28 Coffee Grinding Machine



Plate 4.26 Coffee Roasting Machine





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## a) Steps in Processing Coffee

## i). Roasting

It is the important step in the processing of coffee. Roasting is the most important process for the development of characteristic flavour and aroma of the coffee bean. Apart from these benefits, roasting also helps to reduce the moisture content and the amount of a tannin called chlorogenic acid (a non-volatile acid) and the fat content develops, a group of essential oils known as caffeol. The colour of the bean changes from green to brown due to caramelization of the sugar content of the bean. Roasting time depends upon the required variety of coffee.

## ii). Grinding

The bulk of roasted beans is ground to powder and sold as ground coffee. Roasted beans are ground to three sizes, namely, fine, medium, and coarse powder. Coarse ground powder retains aroma and flavour better and longer than fine ground powder. Coarse ground powder is more suitable for preparing coffee decoction by percolation. On the other hand, fine ground coffee gives a decoction with good aroma. Combination of these two grades in the ratio of 90% of fine powder and10% of coarse powder gives an excellent quality coffee.

## iii). Blending

Two types of coffee powder are marketed, in the name of pure coffee, prepared from coffee beans only and other containing chicory. Strength, flavour, aroma and acidity are the major criteria considered to judge the quality of coffee.

## iv). Packaging

The aroma and flavour in the ground coffee is highly unstable and it should be properly packed under vacuum or can also be fresh roasted and ground before brewing and is practiced even today by several taste experts in households.

## v). Staleness

The green coffee bean once is ground and exposed to air the bean has limited storage life. This staling of coffee is accompanied by loss of carbon-di-oxide and oxidation of guaicol and changes in unsaturated volatile compounds. The freshness of the ground coffee is maintained commercially by sealing in a container under vacuum. Storing in a cool place will delay staling. Once a can of coffee is opened, contact with atmosphere with moisture should be kept to a minimum.

## b) Adulterants in Coffee

- If chicory is added and not mentioned on the label, it is considered as adulterant.
- Cherry husk is sometimes used as an adulterant.
- Burnt sugar, tamarind seed, used coffee powder and saw dust are also used as adulterants.

## YOU KNOW?

## Caffeine

It is an alkaloid substance producing the stimulating property. Especially it stimulates the central nervous system. The longer the brewing time of coffee the more is caffeine extracted. It can be removed chemically from the bean to produce decaffeinated coffee.

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## c) Methods of preparation of coffee

Two level measuring table spoons are added to  $3/4^{\text{th}}$  cup of water in making coffee. To prepare weaker brew hot water can be added after the full strength coffee preparation.

## i) Filtration



**Plate 4.30** Filtration

By this method, water filters through the coffee, into a lower compartment of a coffee maker. The drip part consists of an upper compartment which is perforated and a lower compartment which is a receiver for a filtered beverage.

## ii) Vacuum Coffee Maker



Plate 4.31 Vacuum Coffee Maker

The upper compartment holding coffee has an open tube and is connected to lower compartment. Coffee is usually prevented from passing into the lower compartment using a piece of cloth covered dish placed over the tube opening. Water is placed in the lower compartment and the pot is heated until water raises into the upper compartment. When the pot is removed from the fire, a vacuum is created in a lower bowl drawing a clear infusion down into the bottom bowl.

## iii) Percolation



Plate 4.32 Percolation

Here the heated water is moved upward through a tube onto the coffee compartment. The ground coffee powder kept in a perforated coffee basket. There is a dome at the lower end of the tube which extends from the top of the percolator, and then the tube supports the basket. Steam generates the pressure on the surface of the water under the dome, forces water up the tube onto the coffee. The percolation time depends upon the speed of circulation which is varied from 8-15 minutes.

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## iv) Steeping

Water is heated just before it reaches the boiling point, medium ground coffee powder is added. Steeping time is nearly 6-8 minutes. Then the coffee is passed through the strainer. During steeping the coffee part should be lightly covered to prevent losses of flavouring substances.



## Plate 4.33 Steeping

## d) Different Types of Coffee

The different types of coffee are expresso, soluble, decaffeinated and instant coffee.



Plate 4.34 Expresso Coffee

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4.2.3 Tea



Plate 4.35 Tea

Tea is the most universally preferred beverage. Tea has been cultivated and consumed for more than 2000 years in China and South-East Asia. The main tea producing areas are India, China, Sri Lanka, Japan and Taiwan. In India, tea is cultivated mainly in Assam, West Bengal, Kerala, Tamil Nadu and Karnataka.

High quality tea comes from the bud and the first two leaves of the growing shoot. The quality of tea is mainly influenced by the condition of soil, altitude, climate, age of the leaves, season of plucking leaves and the processing methods adopted.

## i) Types of Processed Tea

Different types of tea available in the market are green, black and oolong. Various steps involved in the processing of tea are withering, rolling, fermentation, drying, grading and packaging. The market forms of tea are tea leaves, tea dust or powder, instant tea, flavoured tea and tea bags.

#### ii) Types of Tea

### Green Tea

In this green tea preparation withering and fermentation are completely

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omitted. In the first step of processing, leaves are steamed to protect the leaves from changing the colour and to inactivate the enzymes. Steaming is then followed by rolling and drying. The leaves retain more original green colour when the leaves are tender. The older leaves have a blackish gray colour.



Plate 4.36 Green Tea

## Oolong Tea

Oolong tea is partially fermented tea primarily manufactured in China and Taiwan. The fermentation period is too short to change the colour of the leaf completely and has some characteristic colour of both green and black.



Plate 4.37 Oolong Tea

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#### Black Tea

Black tea is enzymatically fermented tea prepared by withering the plucked leaves to soften them, passing the withered leaves, under rollers to rupture cell walls and release the enzymes, fermenting the rolled leaves by exposing them to air at 27°C for 2-5 hours to bring about the desired colour and flavour changes.



Plate 4.38 Black Tea

## 4.2.4 Fruit Beverages

Natural fruit juices are valuable for its vitamins especially  $\beta$ -carotene and vitamin C and minerals like potassium. However they are not equal to whole fruits which provide dietary fibre.





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 Fruit Juice: This is a natural juice extracted from fresh fruit. This is not basically changed in its composition during processing of extraction, preparation and preservation E.g. Fresh juice and canned or tinned natural fruit juice.



Plate 4.40 Fruit Drink

 Fruit Drink: This is prepared by liquefying the whole fruit. Nearly 10 percent of the volume of undiluted drink must be whole fruit. E.g. grape fruit, pineapple juice and mango juice.



Plate 4.41 Fruit Squash

iii) Fruit squash: This is prepared from strained fruit juice, sugar and preservative. This contains 25 percent fruit juice and 45-50 percent of sugar, E.g. Grape squash and pineapple squash.  iv) Fruit Punch: Fruit punches are prepared by mixing the desired fruit juices. This contains 25 percent of fruit juice and 65-75 percent of sugar.



Plate 4.42 Fruit Punch

v) Fruit Syrup: In this preparation, any one of the fruit is used and are concentration of fruit juices preserved with sugar. The fruit is coarsely crushed and kept it overnight for fermentation. This enhances the flavour and juice is separated from the solid particles of fruits. It is filtered. Then the juice is heated with sugar. Amount of sugar used in the preparation of fruit syrup is 500g to ½ pint of juice.



Plate 4.43 Fruit Syrup

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- vi) Fruit juice concentrates: In this preparation, water content is totally removed from fruit juice, either by heat, freezing or by reverse osmosis.
- vii) Carbonated Fruit Beverages: Carbonation is the process of mixing sufficient carbon dioxide with water or beverage so that, the product gives off the gas in fine bubbles when served.

## 4.2.5 Milk Based Beverages

Milk is the perfect nutritious food suitable for all age groups. It can be served on its own, hot and cold milk and considered as the soothing and nourishing drink.

i) Flavoured milk: It is the pasteurized and homogenized milk, with addition of different colours / flavours (essences). It enhances the colour and aroma of milk E.g. Badam Milk.



Plate 4.44 Flavoured Milk

Fruit pulp like banana, mango etc can be added to milk to prepare banana/ mango milkshake.

ii) Fermented Milk: Fermented milk is suggested to lactose intolerance patients. Milk is fermented with lactobacilli and curd is prepared. Curd can be diluted and combined with sugar syrups, fresh fruit, herbs and spices to make sweet or savory drinks.



**Plate 4.45** Fermented Milk

Thus beverages are consumed for their nutritive value, antioxidant property, stimulating appetite and for refreshing and soothing. But excessive consumption of sugary beverage leads to have many health problems including obesity and dental caries.

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## 4.3 Salad - Importance and Types of Salads



## Plate 4.46 Salad

Salad is a dish prepared from different types of raw or cooked vegetables

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or fruits itself or garnished with edible oils. Besides vegetables, salad can be prepared using non-vegetarian items like cooked meat, prawns, or any other fish.

Commonly the vegetables like beet root, carrot, cucumber, onion, radish, and tomato are used. Salads are dressed with leafy vegetables like cabbage both green and violet, capsicum, coriander leaves, celery leaves, curry leaves, mint leaves, lettuce, and spinach. Fruits such as apple, banana, grapes, guava, mango, papaya, pomegranate, pine apple and water melon, are the best choices of the fruit salad. Sprouted grams are also mixed with salads to enhance the flavour and nutritional values. In India, the vegetable salad made with curd is termed as Raita. There are different types of salad like Garden salad, Greek salad, Tuna salad, Japanese salad, Bean salad and are prepared for various occasions. Flavour of the salads can be changed by adding different types of salad dressings. These dressings are cream, olive oil, mayonnaise, vinegar, pepper and fermented milk product like curd.

TOU KNOW?

**Salad** can be served as a starter of the meal or as a side dish to accompany any main dish. Salads served as a dessert is the sweet version of fruits with ice-cream, gelatin or whipped cream.

## 4.3.1 Importance of Salad

- Salad is considered as the Prince or King of the meal because it is nutrient rich food.
- 4. Cakes, Beverages and Salads

- Satisfies the appetite.
- It provides the feeling of fullness as most of the salads is good sources of fiber.
- It contains multivitamins which helps us to live a healthy life.
- Addition of sprouted gram improves the vitamin content and digestibility of protein.
- Different types of salad can be prepared by using same type of fruits or vegetables in a different proportion and breaks monotonous of the diet.
- Salads can be prepared easily and according to the preference of the person.
- There are no strict rules to prepare the salad, but based on the availability of ingredients salads can be prepared.
- Salads are made eye appealing and tasty.

## 4.3.2 Different types of salads

## i) Green salad or Garden salad

Some people made salad by using common raw vegetables and greens. Most commonly used vegetables are onion, tomato, celery, carrot, mushrooms, parsley, garden beets, cucumber, pepper, olives, and berries. Nuts and oil seeds are also included to enhance the taste and appearance. Leaves like mint, coriander and lettuce are the commonly used herbs to improve the palatability.

## ii) Bound salad

These are the salads mainly for barbecues. They are thick salad made up by assembling sauces like mayonnaise. ۲

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Because of the thickness it can hold its shape and it will be served as a round form by using ice-cream scooper. This can be used as sandwich filling. The food stuffs used for these preparations are mainly non-vegetarian items like tuna, chicken, egg and sometimes potatoes also used for this bound preparation.

## iii) Main course salad

These are the salads made up of protein rich food stuffs like fish (tuna, oyster, crabs, shrimps), chicken, or other fleshy foods. These are served as the appetizer. This is commonly called as Dinner Salad. The food stuffs may be fried or grilled prior to the preparation. Sea foods are the main choice for this preparation. Many types of main course salads were prepared by changing the main ingredient of the salad to meet the preferences and needs.

## iv) Fruit salad



4.47 Fruit Salad

These are the salads prepared by using canned or fresh fruits or dry fruits. The fresh fruits like apple, orange, mango, avocado, banana, and pine apple are used. The dry-fruits like fig, dates and raisins are used to enhance the taste and appearance and nutrient content. The fruit salad will be served by adding icecreams on the top or by adding custard milk to improve the palatability. This is served as a dessert after the main meal.

## 4.4 Vegetable and Fruit Carvings



4.48 Carving

Carving is the act of shaping an object from any material by scraping the substance with the removal of extra unwanted portions. The application of carving can be used on any soft material which can retain the shape. Generally carving is making of sculpture using clay and melted glass. It can be molded into different shapes while it is soft and pliable so that it attains a definite shape on hardening. Vegetables and fruits are also used for carving. The most commonly used fruits are water melon, apple, pine apple and vegetables like carrot, radish, cucumber, beet root, pumpkin and tomato.

Fruit and vegetable carving is a old tradition which has been passed through generation. It is an ancient art, used in making food offerings for gods, monks,

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guests, weddings and even royal funerals. Before carving a fruit, it is important to collect all materials.

## 4.4.1 Equipment used for carving



4.49: Carving Equipment

Designs of flowers and birds are used in vegetable carving. The designs could be simple or complicated. They are mostly used as a decoration for garnish.

Pen: is used to outline the carving

**Carving Knife**: is used to intricate the design



**Peel Zester**: is used to peel the pericarp of the fruits

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Melon Baller: is used to scoop out various fruit balls. Normally melon and other soft fruits are scooped.

YOU KNOW?

• U shaped garnish tool: is used to peel the skin of the fruit and to design intricate patterns and create a motif.

## 4.4.2 Types of Carving

There are two types of carvings

**Skin Carving:** In this type of carving the outer skin is removed to obtain the inner pulp which is of another colour. A unique carving can be made using both the skin colours.



4.51 Skin Carving

#### Three Dimensional Carving

In this carving, fruits are cut so that it reveals a three dimensional effect. Mostly flowers are created using this technique. Before carving the outline of the pattern has to be drawn on its surface. It requires more time and concentration. Selection of right fruits depend on the type and purpose of carving. Before displaying, it should be refrigerated to get firm textured materials.

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4.52 Three Dimensional Carving

## 4.4.3 Things to remember before carving

- All the fruits and vegetables must be thoroughly cleaned before carving.
- Always use stainless steel knives for carving, iron knives cause discolouration.
- While carving, the fruits and vegetables should be delicately carved with minimum nutrient loss.
- The designs selected for carving should meet the theme of the occasion.
- All those vegetables which need to be dipped in chilled water or sauces should be finely chopped according to need.
- Right selection of vegetables according to the dish is needed.
- Extreme care should be taken, while carving to prevent spoilage to the fruits and vegetables.

## 4.4.4 Selection of Fruits and Vegetables for Carving

All fruits and vegetable have their own unique characteristics, so select them according to its nature.



4.53 Vegetable Carving

- Carrot should be firm in touch, straight, dark colour and any size.
- Radish should be fresh, firm, and round without any blemish. Always use medium size radish.
- Cucumber should always be green, as it is suitable for carving straight, firm, and medium sized.
- **Tomatoes** should be of firm uniform round size with no blemishes.
- Pumpkin must be thick, firm with rough surface
- Cabbage and Chinese cabbage should be fresh and heavy. Always use medium sized cabbages for carving.
- Papaya should be straight, pulpy. Always use semi ripe papaya as it is the best variety used for carving.
- Watermelon should be fresh round in shape with no bruises on its surface.
- Apple should be shiny red and fresh with no cuts.

## 4.5 Ice Carving and Butter Carving

## 4.5.1 Ice Carving

Ice carving is the processes of carving ice to make ice sculptures. Ice is

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the raw material for ice sculpturing. These sculptures are, mainly used for decorative purpose and they are provided purely realistic effect to one event. The life time of ice sculpture is very little and last for few minutes or 6-8 hours or maximum of two days so they are commonly used in special events associated with extravagant celebrations. These are very sensitive to atmospheric temperature as well as the instrumental heat which possibly used in events including light settings.



**Plate 4.54** Ice Carving

i) Uses of Ice carving



### Plate 4.55 Ice Sculpture

- The beautiful ice sculptures like any food forms like fish or fruits ice swan or horse are used in large hotels and are used in restaurants
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to enhance some special events and celebrations.

- Favorite subjects for ice sculptures at weddings are board which named the couples, hearts, doves, and swans.
- There are many bars and parlors which are made up of ices and are decorated with LED bulbs.
- Ice sculptures with the high surface area are used to cool people during heat flourish events instead of air conditioner.

### ii) How to Create Ice-Sculpture

## **Raw materials**

#### Cutting

Crystal clear, uncontaminated ice made from distilled water or double boiled water is needed. Consign a rubber mat under the ice. The specially prepared picture model is used to mount that design on the ice. Place the model on the ice block and sketch the design on it by using permanent marker or needle.

The carver must wear gloves to protect the skin from chilling. Thermal gloves with rubber top are mostly advised because it provides easiness of hand moving too to the work.

### Refining

Start the refine process by using bigger chisel first and then come to the small one according to the sharpness of the sculpture. To sharpen the hard ice, initially light pressure is applied and gradually increases the pressure to sculpture the ice.

#### Smoothing

Smoothing is the process of finishing process of the ice sculpture. Smoothing is used in order to make clear and fastidious lines. Prepare hot water and keep it in a vessel. Dip a metal ruler in this hot water and gently pertain it to the ice by using this ruler to smooth it.

### iii) How to Maintain Ice Sculpture

A temperature-controlled room will be the safest place for the ice sculpture. The temperature should not exceed more than 70 degrees Fahrenheit for a 136 Kg sculpture. Do not place the sculpture outdoors under the direct sunlight especially during warm and temperate climate.

An average lifespan of 136 Kg sculpture is six hours in a temperature controlled room. Make the sculpture bigger and thicker by using more ice to increase the total weight. An increase in the weight extends the life of the object.

- iv) Equipment required for ice carving
- Bit Sharpening
- Chisel
- Ice Chipper



Plate 4.56 Bit Sharpening Tool

- Ice Carver Pick
- Miter Saw
- Four-Wheel Steer Cart
- Two-Wheel Dolly
- Lifts



4.57 Miter Saw

YOU KNOW?

> A gouge is one type of chisel serves to carve small pieces from the material, particularly in woodworking, woodturning, and ice sculpturing. Gouges most frequently produce curved in surfaces. A gouge typically has a 'U'-shaped cross-section in it.

## 4.5.2 Butter Carving

Butter carving is an art which represents nature at its best. It reflects the lifestyle of people and animals. They are popular in United States and are used as culinary decorations at buffet tables. It was originated in ancient time Tibet, Babylon, Roman and Britain. The first masterpiece was from Europe in the year 1536. The first display was created by Caroline Shawk Brooks, a farmer from Helena, Arkansas.

i) How to create Butter Carving?

## Ingredients used:

- Butter
- A cold room
- Ice water
- Materials used for the framework
- Sculpting equipment
- Food colour



Plate 4.58 Butter Rose Carving

## Method:

#### A suitable work place

To create a magnificent carving the temperature of the room should be kept at 32°F otherwise the butter will melt.

## Selection of a subject

The subject for carving should be wisely chosen to depict the beauty of nature.

## Dip the butter

To obtain a smooth and a finish texture, the butter should be dipped

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in cold water so that the impurities are removed and can obtain a perfect creation.

## **Construct the frame**

Before carving the frame has to be created so that the base is set for carving, initially bamboo were used, now frames are made out of wood and metal.

## Hands to be dipped in ice water

The hands should be numb, in order to do so it should be dipped in chilled water to prevent the butter from melting during working due to the body temperature.

## Knead the butter dough

Knead soft and smooth butter dough it should not contain air bubbles, as the final product will not have a finished appearance. Colouring matter or pigments can be added to enhance the appearance of carving.

## Apply butter at the base

Apply butter at the base, before starting the carving as it would act as a strong foundation. The hands also should be numb and dipped in chilled water to make the work easier.

### Intricate design

Intricate the design with tallow tools. Use a sculpting knife for even texture, outlining circumferences and intricate finish.

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## Preserve the carvings in a low temperature room

Once the work is completed, store the masterpiece, in a cold room temperature.

## ii) Advantages of Butter Carving

- New sculptures can be designed depicting the life of a normal man.
- Innovative ideas can help to explore the imagination

## iii) Disadvantages of Butter Carving

- Skilled personnel are required to carve the butter.
- Temperatures need to be maintained otherwise the butter will melt.
- Carving equipment are required to design the butter.
- It is a costly affair.
- iv) Equipment / Utensils required for butter carving
  - Wooden moulds or Stamps to shape the bricks.
  - Refrigerated rooms.
  - Wooden-and-wire armature

Ice carving and butter carving are the most attractive art work even though the life of these carvings is very short. These sculptures enhance the overall atmosphere of the event by providing ice cooling effect.

## YOU

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## Factors to be considered for Butter Carving

- The room temperature should be maintained at 32°F
- The butter should be soaked in ice chilled cold water.
- The frame should be strong and rigid to form the base
- Attain expertise in carving before using it on sculptures.
- The temperature should be always maintained to prevent melting

A-Z GLOSSARY		
Gel Sponge	:	Eggless sponge cake using cake improver gel.
Genoise Sponge	•	It is Italian origin named after the city Genoa. Instead of using chemical leavening, air is suspended in the batter during mixing to provide volume.
Meringue	•	Sweet made from a mixture of egg white and sugar baked until crisp
Decaffeinated	:	Removal of caffeine from coffee beans
Percolation	:	Process of liquid slowly passing through a filter
Barbecues	:	A meal (meat, fish) is cooked out of doors on a rack over and open fire

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Scrape	:	To remove an unwanted covering or a top layer from something
Bruises	:	Discolouration / wound
Wire – armature	:	A framework to support the clay or other material used in modeling
Motif	:	A decorative image
French dressing	:	Creamy ketchup made by blending olive oil, vinegar, tomato paste, ketchup, brown sugar, paprika and salt
Pint	:	A unit measurement of liquids, equals to 0.473 litre.

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- https://www.youtube.com/watch?v=Os76mQrQvQM-hotel-front office/lobby equipment
- https://www.youtube.com/watch?v=wVz0YZPVSVw Job Description of a chef and a cook
- https://www.youtube.com/watch?v=zG8BBpZX\_7w- Food and Beverage service.

## STUDENT ACTIVITY

- Collect different cake decoration pictures and create an album.
- Exhibit vegetable or fruit carvings
- Find out the different fruit drinks available in the market and find their pro's and con's.
- Tabulate different types of salads used in different countries.

## TEACHER ACTIVITY

- Demo on preparation of traditional beverages.
- Take the students to the near bakery and show them different types of icing used in it.
- Demonstration of simple cake preparation using a pressure cooker.

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- 1. The major ingredient used for cake preparation is \_\_\_\_\_
  - a) Fat b) Fruits
  - c) Flour d) Flake
- 2. The type of flour used for cake preparation is \_\_\_\_\_
  - a) Strong flour
  - b) Weak flour
  - c) Medium flour
  - d) Mixture of soft and medium flour
- 3. One of the following is not a liquid sugar \_\_\_\_\_.
  - a) Honey
  - b) Molasses
  - c) Powdered sugar
  - d) Invert sugar
- 4. A knife with parallel and without sharp edges is called a \_\_\_\_\_
  - a) Bread knife
  - b) Pallet knife
  - c) Cutting knife
  - d) Carving knife
- 5. The golden brown crust formation in cake preparation is due to
  - a) Browning reaction
  - b) Caramalization
  - c) Dextrinisation
  - d) Gelatinisation

- 6. The \_\_\_\_\_ acts as a emulsifier in cake preparation.
  - a) Sugar b) Fat
  - c) Eggs d) Salt
- 7. Select one of the external characteristics of cake from the following \_\_\_\_\_.
  - a) Grain

QUESTIONS

- b) Volume
- c) Crumb colour
- d) Taste
- 8. Select one of the internal characteristics of cake from the following \_\_\_\_\_.
  - a) Texture
  - b) Colour of the crust
  - c) Bloom
  - d) Crust character
- 9. \_\_\_\_\_ is the base for the preparation of beverages.
  - a) Sugar
  - b) Water
  - c) Milk
  - d) Fruits
- 10. Fifty percent of world's coffee produced is in \_\_\_\_\_
  - a) Brazil
  - b) Tamil Nadu
  - c) Karnataka
  - d) China

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- 11. Identify the adulterant in Coffee
  - a) Chicory
  - b) Cherry husk
  - c) Tamarind seed
  - d) Coffee beans
- 12. The edible portion of plant used for tea preparation is \_\_\_\_\_
  - a) Seeds
  - b) Bud and the first two leaves
  - c) Matured leaves
  - d) Flowers
- 13. Fruit squash contains \_\_\_\_\_\_ percentage of fruit juice.
  - a) 10 b) 15
  - c) 20 d) 25
- 14. Milk beverages are considered as \_\_\_\_\_ drink.
  - a) Refreshing
  - b) Soothing and nourishing
  - c) Stimulating
  - d) Appetizing
- 15. Fermented milk is suggested for \_\_\_\_\_ patients.
  - a) Lactose intolerance
  - b) Diabetes
  - c) Ulcer
  - d) Kidney failure
- 16. \_\_\_\_\_ is considered as a Prince or King of the meal.
  - a) Salad
  - b) Sweets
  - c) Main food
  - d) Appetizer

- 17. Salads provide the feeling of fullness because of \_\_\_\_\_
  - a) High fibre content
  - b) Water content

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- c) Rich in vitamins
- d) Rich in minerals
- The main purpose of fruit and vegetable carving is to make food \_\_\_\_\_\_\_\_ except
  - a) More appealing and attractive
  - b) Enhance nutrient content
  - c) Way of honouring guests
  - d) To preserve
- 19. The first masterpiece of butter carving is from \_\_\_\_\_
  - a) Roman
  - b) Tibet
  - c) Europe
  - d) Britain
- 20. To maintain the ice sculpture of 136 kg the room temperature should be

a)	70°F	b)	80°F
c)	85°F	d)	90°F

- II. Write in three lines (3 Marks)
  - 1. List the equipments used in Baking.
- 2. Mention the ingredients used in cake preparation.
- 3. What are the functions of salt in cake preparation?
- 4. Point out the precautions to be followed while adding fruits in cake preparation?

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- 5. What are the methods used for the cake preparation?
- 6. How will you avoid the curdling problem while mixing cake batter.
- 7. Write on blending method of cake preparation.
- 8. Write a note on sugar water method.
- 9. What is sponge cake? Give examples.
- 10. List the adulterants of coffee.
- 11. Write a note on caffeine.
- 12. List the types of tea and give short note on any one type.
- 13. Define flavoured milk and fermented milk.
- 14. What is salad and write the types.
- 15. Write on main course salad?
- 16. Define carving.
- 17. List the equipment used for fruits and vegetables carving.
- 18. Write any three uses of ice carving.
- 19. How will you maintain the ice sculpture?
- 20. What are the advantages and disadvantages of butter carving?

#### III. Write in a paragraph (5 Marks)

- 1. What are the functions of leavening agent and milk in cake preparation?
- 2. Explain the flour batter method.
- 3. Write a note on boiled method and all in process method of cake preparation.
- 4. Classify the beverages and give examples.

- 5. Explain the methods of coffee preparation.
- 6. Explain the types of Tea.

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- 7. List the importance of salads.
- 8. How will you prepare a fruit salad for your lunch?
- 9. Write the types of carving and points to remember before carving.
- 10. Write a short note on creating ice sculpture.
- IV. Answer in Detail (10 Marks)
- 1. Explain the equipments used in baking.
- 2. Write on the basic ingredients used in cake preparation and their functions?
- 3. Explain the sugar batter method in cake preparation.
- 4. Identify the external characteristics of the cake and explain.
- 5. Explain the internal characteristics of the cake.
- 6. Write down the steps in processing coffee.
- 7. Explain the fruit beverages.
- 8. Write a note on different types of salad.
- 9. What is carving? How will you select fruits and vegetables for carving.
- 10. How will you make butter carving?

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