III. FAQ

1. **General functions of the cake ingredients?**

Ans: Overall functions of various ingredients:

- Toughеners: Flour, milk solids, egg whites will make your cake tougher or stronger
- Tenderizers: Sugar, fats, egg yolks, chocolate, leavenings, emulsifiers, starches, sums will make your cakes more tender or weaker
- Moisteners: Water, liquid milk, liquid eggs, syrups, liquid sugars
- Driers: Flour, milk solids, instant starch, gums, egg whites
- Flavors: Salt, sugar, cocoa, chocolate, butter, vanilla, other flavors.

2. **Difference between cake and biscuits?**

Ans: **Cake:** Overall, the flour mixtures that produce cakes and cookies are very similar to those used to make breads, although they are sweeter and often have added flavorings not typically used in breads. Cakes have a higher proportion of sugar, milk and fat to flour than do breads, and the flour used is usually cake flour.

Cakes can be presented in many forms, from simple sheet cakes to elaborately decorated works of art for weddings and other important occasions. With only a few basic formulas and a variety of icings and fillings, the baker can make the perfect dessert for any occasion or purpose.

3. **Importance of mixing cake batters?**

Ans: The three main goals of mixing cake batters are:

- To combine all ingredients into a smooth, uniform batter.

- To form and incorporate air cells in the batter.
- To develop the proper texture in the finished product.

4. Factors causing curding in the cake?

Ans: Curding occurs when the fat can no longer hold the water in emulsion. The mixture then changes to a fat-in-water mixture, with small particles of fat surrounded by water and other ingredients.The following factors can cause curdling:

1. Using the wrong type of fat.
2. Having the ingredients too cold.
3. Mixing the first stage of the procedure too quickly.
4. Adding the liquids too quickly.
5. Adding too much liquid.

6. Significance of air cells in the cake batters?

Ans: Air cells in cake batters are important for texture and for leavening. A fine, smooth texture is the result of small, uniform air cells. Large or irregular air cells result in a coarse texture. When no chemical leavener is used, the trapped air, in addition to steam, provides all the leavening. When baking powder or soda is used, the air cells provide places to hold the gases released by the chemical leavener. Granulated sugar is the proper sugar for creaming- method cakes. Confectioner's sugar is too fine to produce good air cells.

In the case of egg-foam cakes (sponge, angel food, chiffon), the air cells are formed by whipping eggs and sugar. For the best foaming, the egg and sugar mixture should be slightly warm (about 100°F/38°C). Whipping is done at high speed first, but the final stages of whipping should be at medium speed in order to retain air cells.Both the uniform mixing of

ingredients and the formation of air cells are important to a cake texture.

7. Basic mixing method used for cakes?

Ans: The following mixing methods is used for most types of cakes in the modern bakeshop. Each of these methods is used for particular types of formulas.

High-fat or shortened cakes

Creaming method, two-stage method, one-stage method, flour-batter method

Low-fat or foam-type cakes

Sponge method, angel food method, chiffon method

8. Advantage of low fat cake?

Ans: Most egg-foam cakes contain little or no shortening and depend on the air trapped in beaten eggs for most or all of their leavening. Demand for fine pastries and cakes led to the versatility of sponge cakes.

Egg-foam cakes have a springy texture and are tougher than shortened cakes. This makes them valuable for many kinds of desserts that require much handling to assemble. Most European cakes are made with sponge or egg-foam cakes. These cakes are baked either in thin sheets or in thick layers that are sliced horizontally into thinner layers. The thin sponge layers are then stacked with a variety of fillings, creams, mousses, fruits, and icings. In addition, sponge layers in this kind of cake are moistened with a flavored sugar syrup to compensate for their lack of moisture.

Sponge sheets for jelly rolls and other rolled cakes are made without any shortening so they do not crack when rolled. As, fat weakens gluten, sponge cakes containing fat may spilt more easily.

Flour for egg-foam cakes must be weak in order to avoid making the cake tougher than necessary. Cornstarch is sometimes added to cake flour for these cakes to weaken the flour further.

9. Combination of creaming of sponge method?

Ans: 1**.** Cream the butter and sugar

2. Add the egg yolks a little at a time

3. Mix well after each addition

4. Whip the egg whites and sugar until they form soft peaks, as for angel food cake

5. Fold the meringue into the butter mixture

6. Sift the dry ingredients together

7. Fold in the sifted dry ingredients

8. Deposit the batter in prepared pans

9. Level the top of the batter with a plastic scraper

10.Benefits from chlorination of world?

Ans: Chlorination of cake flour provides two benefits. First is bleaching, which gives a whiter crumb color to cakes but second and more importantly it lowers the gelatinization temperature of the starch within the cake flour. This makes the cake set faster and therefore reduces the loss of leavening during baking. Bleaching also gives the cake flour the ability to carry more sugar and fat (as well as water), without their tenderizing (collapsing) effects, balancing the recipe.

11.Factors affecting texture of cake?

Ans: Air cells in cake batters are important for texture and for leavening. A fine, smooth texture is the result of small, uniform air cells. Large or irregular air cells result in a coarse texture. Both the uniform mixing of ingredients and the formation of air cells are important to a cake texture. Another factor of mixing that affects texture is gluten development. For the most part, very little gluten development is desired in cakes, so, cake flour, low in gluten is used. Few sponge cake needs cornstarch to replace part of the flour, to reduce the gluten, further. On the other hand, some pound cake and fruit cake formulas needs more gluten.

12.Function of wheat flour in the dough of strength of cake?

Ans: The vast majority of cakes - with the exception of cheesecakes, foam cakes and gluten-free cakes - contain wheat flour as backbone of their composition. It establishes the crumb structure in cakes and bind all of the other ingredients together during the cake making process. Wheat flour contains two very important proteins, glutenin and gliadin, when mixed with moisture and stirred, create its structural network. The flour starches gelatinize or set when baked. Too much mixing or using the wrong type of flour - creates a tough, dry and flavorless cake. The gluten from the wheat flour gives dough its strength and elasticity - qualities desired in yeast breads, but not in cakes.

13.Role of sweeteners in the cake preparation?

Ans: Sugar role in a cake recipe is to add sweetness, but it also plays other important roles depending upon whether it is in the crystalline (granulated white or brown) or liquid form (honey or corn syrup). All sugar acts as a tenderizer by preventing the wheat flour proteins from forming an excessive amount of gluten. It does this because sugar is hygroscopic, another word for its ability to absorb or attract moisture from the air, and dissolve readily in it (honey and some liquid sugars are more hygroscopic than crystalline sugar). Sugar

essentially absorbs available water in the recipe, until saturated, leaving the rest for the wheat's available gluten forming proteins. Gluten is formed when the wheat flour proteins are moistened and agitated or mixed; the higher the flour's gluten-forming potential, the more available water or liquid and the more mixing (agitation) that takes place and the less tenderizers, such as sugar and fat, (and the warmer the ingredients), the more gluten is formed. Because sugar is also a hygroscopic substance, it helps with a recipe's moisture retention and thus increases its shelf life by slowing the staling process. Sugar also tenderizes by slowing down the coagulation of the egg white and milk proteins, as well, that also contribute to structure of the cake when baked.

14.Selection of sugar for the cake baking?

Ans: Crystalline sugar plays an important role by incorporating air into the batter for leavening when beaten with solid, plastic fat, such as stick butter or margarine or solid shortening, called "creaming" (only when the fat is at an optimal temperature). Sugar plays an important role with the lubrication of other ingredients in the recipe, when molten, and with crust color. Increasing sugar in a cake recipe will raise the gelatinization temperature of the starches in the wheat flour and thus will increase expansion time, so care must be taken in its ratio to the other ingredients; too much can cause a cake's structure to fail or the cake may be so tenderized that it crumbles when cut rather than staying in slices (a warm cake will also cause crumbling). When the sugar is reduced too much, the gluten structure is so strong that the cake develops some long cells or tunnels. Overall volume may even increase, but the cake would be tough.

Other types of sugars used in the cakes include dextrose and brown sugar. Also syrups such as invert sugar, corn syrup, glucose, molasses, honey or refiner's syrups are used either for the particular flavor they impart or as a moisture retaining capabilities in cakes. When using these sweetener varieties you must be aware that some do not have the same sweetness as granulated sugar (sucrose) and do contain various levels of water. Sugars of any kind when used in cakes tend to soften the batter and make it thinner, and they need to

be included as liquids. Fine granulated sugar, also known as superfine sugar is used to help create the finest texture and maximum volume in a cake. Sugar can stand in for fat and is often added to commercial low-fat products or recipes.

15.Types of fat for the baking of cake?

Ans: There are two types of fat used in cake baking: solid and liquid. The primary function of solid fat, also known as plastic fat, such as solid shortening, stick butter or margarine, is to incorporate air bubbles into its malleable mass for volume. This is done through creaming, or beating the fat with crystalline sugar, also known as white granulated or brown sugar (white granulated sugar combined with molasses). But, it can only be done successfully if the right ingredients, ratios, mixing times and temperature, and using the proper tools are followed.

16.Function of eggs in cake?

Ans: Eggs perform a multitude of important functions in a cake recipe, depending on the part used. Foamed eggs provide leavening, especially separated and beaten whites. Whole eggs and whites contribute to structure. Egg yolk is also a rich source of emulsifying agents and, thus, is a tenderizer; it facilitates the incorporation of air and inhibits wheat starch gelatinization. Egg yolks also add color, nutrition, and flavor and help to retain moisture in the finished cake. On the other hand, whites can have a drying effect, but they contribute slightly more protein than yolks do, although with far fewer nutrients and without the fat and cholesterol.

17.Role of leaveners in the baking of cake?

Ans: The leavening source used in cakes may serve to produce gas by physical, chemical

or biological methods. It starts with the creation of millions of tiny air bubbles from various mixing methods, trapped in the structural framework of the cake's batter by the gluten strands. Air incorporation comes from beating eggs, creaming butter and sugar together, from folding ingredients together, and from any agitation. Cakes are leavened when the air bubbles in their batters expand when heated from water vapor or steam from liquids; carbon dioxide produced from chemical leaveners (baking soda and/or baking powder); general expansion from heat from the oven and in some cakes, from yeast activity. In many baked items, one or more of these agents participate in the leavening process.

A chemical leavening agent provides a source of gas to the recipe called carbon dioxide. When moistened (baking soda and double acting baking powder) and/or heated (double acting baking powder), it expands the millions of air bubbles previously created in a batter or dough from mixing or any agitation made to the cake's ingredients, trapped in the structural framework by the gluten strands. If the batter is over mixed, becomes too warm or not baked promptly, the gas will escape and the final recipe will have poor texture and low volume.

18.List the requirement for manufacturing cake?

Ans: Mixers: Vertical mixer, spiral mixer and horizontal mixer.

Dough-Handling Equipment: Dough fermentation trough, divider, divider-rounder, dough sheeter, molder, proofer and retarder.

Ovens**:** Deck oven, rack oven, mechanical oven.