Frequently Asked Question:

1. What are the various steps of modern milling process?

Modern milling process consists of the following steps:

- Grain cleaning
- Tempering or conditioning
- Roller milling
- Sieving
- Commercial flours mixing
- Quality standardization

2. What are the two main objectives of wheat milling?

Two main objectives of wheat milling are:

- to separate endosperm of the grain from bran and germ
- to reduce dimensions of endosperm particles for fine flour particles

3. Explain baking test.

The baking test involves high speed dough mixing and a short fermentation time. Dough pieces are rested for 30 min for fermentation, sheeted and moulded, placed in tins, and baked. The loaves are evaluated the next day for volume, shape, crust color, crumb structure and texture.

4. What is an Alveograph test? Where is it used?

The Alveograph is a tool for flour quality measurement. It measures the flexibility of the dough produced from the flour by inflating a bubble in a thin sheet of the dough until it bursts. The resulting values show the strength of the flour, and thus its suitability for different uses.

5. Write a note on whole-wheat flour.

During roller milling, the bran and the germ gets separated from the endosperm, the three components actually have to be reconstituted to produce whole-wheat flour. This can be tested as the germ and bran are visible in the flour as minute brown flecks. Because of the presence of bran, which reduces gluten development, baked products made from whole-wheat flour are naturally heavier and denser than those made with white flour. Many bakers combine whole-wheat and white flour in order to gain the attributes of both.

6. What are the various tests to be conducted for assessing the quality of wheat flour?

The wheat flour are tested through analytical methods for determination of Moisture, ash, protein, gluten contents, Falling number and sedimentation value. Further, they are tested for their Rhelogical parameters using Farinograph, extensograph, alveograph, amylograph, Fermentograph, maturograph, spring oven test and baking tests.

7. Name the various types of white flours

There are many types of white flours, like

- All-purpose flour (plain, white)
- Bleached flour
- Bread flour
- Bromated flour
- Cake flour
- Durum flour
- Farina
- Gluten flour
- Instant flour (instant-blending, quick-mixing, granulated flour)
- Pastry flour (cookie flour, cracker flour)
- Self-rising flour
- Semolina

8. In commercial mill how are milling qualities of wheat determined?

The aim in commercial mill is to obtain a maximum yield of flour with lower ash content. The milling quality of wheat is determined by successively measuring the following characteristics in a standard milling experiment

 \circ The amount of grain that can be milled per unit time.

- The flour yield of each milling cycle
- The moisture and ash content of each milling cycle.

9. What are the steps involved in milling process?

Conditioned wheat is fed to a pair of corrugated chilled iron rollers known as the first break-rollers, one of which revolves at two and a half times the speed of the other. The space between the first break-rollers is such that the grains are broken mainly into relatively coarse pieces with a minimum of crushing, so as to avoid the powdering of bran as powdered bran cannot be separated from flour.

The material released from the first break-rollers passes to a sifter machine, which separates the particles according to size by means of a stack of horizontal sieves of increasing degree of fineness. The sieve sizes are (from top to bottom) 750, 300 and 125 μ m. This separates coarse materials (larger than 750 μ m), semolina (between 300 and 750 μ m), middling (between 125 and 300 μ m) and the flour (smaller than 125 μ m).

10. What is Bromated flour? What are its uses?

To get a uniform colour of the product, maturing agent such as bromated are added to flour in order to further develop the gluten and to make the kneading of doughs easier. Other maturing agents include phosphate, ascorbic acid, and malted barley are also commonly used.

11. Explain the meaning of self-rising flour?

Soft wheat which is used to make this flour are added with salt, leavening agent such as baking soda or baking powder and an acidreleasing substance. Because of these additives self-rising flour should never be used in yeast-leavened baked goods.

12. What is the meaning of Semolina?

This is the coarsely ground endosperm with no bran and no germ. These are produced using durum wheat. Its high protein content makes it ideal for making commercial pasta, and it can also be used to make bread.

13. Explain the various steps involved in Baking test?

The baking test involves high speed dough mixing and a short fermentation time. Dough pieces are rested for 30 min, sheeted and molded, placed in tins, and baked. The loaves are evaluated the

following day for volume, shape, crust color, crumb structure and crumb texture.

14. What are the reasons for conditions of wheat before milling?

There are 3 reasons to condition wheat.

- a) To toughen the bran so that a longer extraction of low ash content flour can be made.
- b) To ensure that moisture migration to endosperm is sufficient to produce flour of approximately 14 to 15 percent moisture content.
- c) To ensure that the endosperm is mellow enough for relative ease of milling.

15. Write a note on the moisture levels at the time of milling on the various wheat varieties?

The recommended moisture percentage for wheat varieties at the time of milling are based on the hardness of wheat. The extremely hard varieties shall have a moisture would be 16.5 – 17.5, American Bakery hard (HRW) varieties would be 15.5 – 16.5, Australian soft would be 15.5 – 16.0 and European Traditional Soft would have the lowest moisture percentage between 15.0 – 16.0.