

## CEM-404\_Unit-5\_Organic

### 1. What is quality of food products?

Typically, the term food quality represents the sum of all properties and attributes of a food item that are acceptable to the customer. These food quality attributes include appearance, including size, shape, gloss, colour, and consistency, texture, flavour, and nutritional content.

### 2. What are the quality parameters of food products?

The parameters control size, consistency, appearance, freshness, hygiene, safety, and maturity (color, dry matter, sugar content, pH, acidity, etc.). The food products are then classified depending on the percentage of requirements fulfilled.

### 3. What is the full form of FSSAI?

The Food Safety and Standards Authority of India (FSSAI), has been established under Food Safety and Standards Act, 2006 which consolidates various acts & orders that have hitherto handled food related issues in various Ministries and Departments.

### 4. What is full form of PFA?

THE PREVENTION OF FOOD ADULTERATION ACT, 1954 (Amended in 1964, 1976, 1986) The Act provides the protection from adulteration / contamination of food that may lead to the health risk of consumers.

### 5. What is FPO?

The Food Products Order, 1955 was promulgated under Section 3 of the Essential Commodities Act, 1955. The FPO mark full form is the Food Products Order (FPO) mark applied to food products sold in India. FPO mark is a certification mark mandatory on all processed fruit products sold in India such as, packaged fruit beverages, > fruit-jams, crushes and squashes, pickles, dehydrated fruit products, fruit extracts, following the Food Safety and Standards Act of 2006.

### 6. What is the Essential Commodities Act of 1955?

The Essential Commodities Act (ECA) was a Parliamentary act [1st April, 1955.], which was amended for the interest of the general public, for the control of the production, supply and distribution of, and trade and commerce, in certain commodities, whose obstruction could affect the lives of the common people to a great extent.

### 7. What are the 7 essential commodities?

**Essential Commodities** are fertilizers, pulses, edible oil, cereals, oilseeds, petroleum and allied products, seeds of fruits and vegetables.

### 8. What are the important points of Essential Commodities Act?

The Essential Commodities Act, 1955 empowers the government to regulate these commodities' production, supply, and distribution to maintain or increase supplies and ensure equitable distribution.

### 9. What is BIS?

BIS certification is issued by the Bureau of Indian Standards (BIS) in India. The BIS certification indicates third party, i.e., BIS assurance of any product's quality, reliability, and safety to the customers.

### 10. What do you mean by AGMARK?

The full form of AGMARK is **Agriculture marketing**.

It stands for a certification mark on an agricultural product stating that it satisfies the standards prescribed by the Directorate of Marketing and Inspection, Department of Agriculture. Agricultural products including fruits, vegetables, cereals, pulses, oilseeds, vegetable oils, ghee, spices, honey, creamery butter, wheat, atta, besan, etc. have been notified with grade standards. The current AGMARK covers 222 agricultural commodities.

### **11. What are food preservatives? Give example.**

Food preservatives are substances that prevent food spoilage caused by microbial growth. Food preservatives increase the shelf life of foods and help to control the growth of bacteria.

#### **Examples of food preservatives**

- **Sugar, table salt, vegetable oil, and sodium benzoate  $C_6H_5COONa$  are the most commonly used food preservatives.**
- **Salt is used to suppress the growth of microbes in vegetables and meats.**
- **Sorbic acid and propionic acid salts are also used as preservatives.**

### **12. What is the permitted level of preservatives?**

The lowest concentrations of commonly used preservatives are of the order of a few milligrams per kilogram of food. Sodium benzoate was approved as the first of all food preservatives by the Food and Drug Administration (FDA). The permissible limit of its consumption is 0–5 mg/kg of body weight.

### **13. What is permitted Class 2 preservatives?**

Sorbates, benzoates, propionates and sulfites are used broadly class II preservative in fruit processing. Benzoic acid and its sodium salt (sodium benzoate) is permitted to the maximum level of 0.1%.

### **14. Why antioxidant is used in food? Give example of common antioxidant used in food.**

Antioxidants, natural or synthetic food preservatives, are additives that preserve food against oxidative deterioration on storage and processing. Example of natural antioxidant used in food is ascorbic acid or Vitamin C.

### **15. What are the two types of colour additives?**

However, color additives are often considered to be members of one of two classes— “natural” color additives and “synthetic” color additives. Natural color additives may be from plant, mineral or animal sources, and synthetic color additives are derived from organic chemicals.

### **16. What are natural colours in food additives?**

Natural food colouring agents are beet juice, beta carotene, black / purple carrot, blue shade vegetable juice colours.

### **17. What are emulsifiers and how do they work?**

Emulsifiers are food additives used to help mix two substances that typically separate when they are combined (e.g., oil and water). Emulsifiers have one water-loving (hydrophilic) and one oil-loving (hydrophobic) end. When they are added to a non-mixable liquid, the emulsifier molecules position themselves along the so-called interfacial layer where the oil separates from the water. Here, the emulsifier is positioned in such a way that their hydrophilic end faces towards the water phase and their hydrophobic end faces the oil phase, making it possible for the water and oil to become finely dispersed in each other. In the end, the emulsifier creates a stable, homogenous, and smooth emulsion.

### **18. Where are the emulsifiers are used in food industry?**

Emulsifiers are very commonly used in preparation of bread, chocolate, ice-cream.

### **19. What are examples of food emulsifiers?**

Commonly used emulsifiers in modern food production include mustard, soy and egg lecithin, mono- and diglycerides, polysorbates, carrageenan, guar gum and canola oil.

### **20. What is a food sweetener?**

Sweeteners or sugar substitutes, such as aspartame, sucralose, and stevia derived substances, are ingredients used to sweeten and in some cases enhance the flavor of foods.

### **21. What are the best food sweeteners?**

#### **5 natural sweeteners that are good for our health**

1. Stevia. Stevia is a very popular low calorie sweetener. ...
2. Erythritol. Erythritol is another low calorie sweetener. ...
3. Xylitol. Xylitol is a sugar alcohol with a sweetness similar to that of sugar. ...
4. Yacon syrup. Yacon syrup is another unique sweetener. ...
5. Monk fruit sweetener.

### **22. What is buffering salt? What is the use of it as food additives? Give example.**

Buffer salt is an extract of citric acid which can be added to a recipe to help reduce high acidity levels. Highly acidic foods are not good for health.

### **23. What are buffering salts in food additives?**

For example, the addition of sodium citrate to a food containing citric acid will create a buffer solution. Sodium, Calcium and Potassium Citrate The citrate additives are widely used antioxidants and buffers that have a range of applications.

### **24. What is the GMP certification?**

Good manufacturing practice (GMP) is a system for ensuring that products are consistently produced and controlled according to quality standards.

### **25. What is a HACCP certificate?**

HACCP (Hazard Analysis and Critical Control Point) is an internationally recognized standard that defines the requirements for the effective control of food safety. It should be applied during the manufacture of food, ingredients and beverages, and is a key element of the CODEX General Principles of Food Hygiene.

### **26. What is the GAP certification?**

Good Agricultural Practices (GAP) audits are voluntary audits that verify that fruits and vegetables are produced, packed, handled, and stored to minimize risks of microbial food safety hazards.

### **27. What is meant by ISO 9000 certification?**

ISO 9000 is a series of standards, developed and published by the International Organization for Standardization (ISO). It defines, establishes and maintains an effective quality assurance (QA) system for manufacturing and service industries.

**28. What is meant by ISO 14000 certification?**

ISO 14000 is a series of environmental management standards developed and published by the International Organization for Standardization (ISO). The ISO 14000 standards provide guidelines and frameworks for organizations that need to systematize and improve their environmental management efforts.

**29. What is misbranding of food?**

Misbranding is done by i) Its labelling is false or misleading, ii) It is offered for sale under the name of another food with or without other descriptive words, or under any name which is likely to be misleading.

**30. What is meant by ISO 22000 certification?**

ISO 22000 sets out the requirements for a food safety management system and can be certified to it. It maps out what an organization needs to do to demonstrate its ability to control food safety hazards in order to ensure that food is safe.

**31. What is adulteration in oil?**

Edible fats and oils are adulterated by mixing cold press oil with refined oil and also by replacing expensive fats and oils with cheaper ones.

**32. How do you find adulterants in oil?**

Here's how you can do the adulteration test at home: Take 2ml of oil in a bowl and add a spoon of yellow butter to it. If the colour of the oil doesn't change, then the oil is pure and safe for consumption. If the colour changes to red, then the oil is impure and can be dangerous for human consumption.

**33. What is milk Adulteration?**

The process of intentionally degrading milk quality either by adding some inferior substances or by removing some valuable ingredient is known as milk adulteration. It is done to increase the quantity of milk and make a profit illegally.

**34. What are the adulterations found in milk?**

Some of the major adulterants in milk having serious adverse health effect are urea, formalin, detergents, ammonium sulphate, boric acid, caustic soda, benzoic acid, salicylic acid, hydrogen peroxide, sugars and melamine.

**35. How do you detect the adulteration of milk?**

Put a drop of milk on a polished slanting surface. Pure milk either stays or flows slowly leaving a white trail behind. Milk adulterated with water will flow immediately without leaving a mark.

**36. What is ghee and butter adulterated with?**

Ghee is primarily adulterated by vegetable/plant oils and animal body fats.

**37. How to detect vanaspati in ghee butter?**

Take about one tea spoon full of melted sample of Ghee with equal quantity of concentrated Hydrochloric acid in a stoppered test tube and add to it a pinch of sugar. Shake for one minute and let it for five minutes. Appearance of crimson colour in lower (acid) of Vanaspati or Margarine.

### **38. How do you test the purity of butter?**

The simplest method to check the purity of butter is to heat a teaspoon of butter in a vessel. If butter melts immediately and turns dark brownish in colour, then it is pure. And if it turns light yellow in colour, then it is surely adulterated.

### **39. How do you check for adulteration of spices?**

Sprinkle powdered spices on the water surface. Pure spices will not leave any saw dust/powdered bran on the surface of water. If spices are adulterated, saw dust/powdered bran will float on the surface.

### **40. What are the common adulteration in ground spices?**

Common adulterates are lead chromate, metanil yellow, chalk powder or yellow soap stone powder and starch: substitution with other rhizomes, e.g., arrowroot, etc. Substitution with de-oiled cardamom, artificial colourant (e.g., 'applegreen', malachite green).

### **41. What are the adulterants in turmeric powder?**

Turmeric is also adulterated by mixing artificial colors and dyes, such as metanil yellow. This provides a smooth and perfect texture so that it can be mixed well with raw Turmeric. In some cases, even powdered chalk is used to increase the turmeric quantity. Consuming turmeric powder rich in metanil yellow will make you feel nauseous, cause stomach disorders, and food poisoning.

To test the presence of chemicals in Turmeric powder, mix a teaspoon of haldi powder with water. If it settles down at the bottom and turns pale yellow, then it is real. On the other hand, adulterated haldi powder will turn dark yellow after putting it in water.

### **42. What are the adulterants in red chilli powder?**

Common adulterants mixed in red chilli powder are brick powder, sawdust, sand, soapstone, water-soluble coal-tar based colours, and red oxide. Another dangerous adulterant that may be added to red chilli powder is a chemical called rhodamine B. The harmful effect of adulterated red chilli powder is diarrhea, stomach ulcer, mouth blister, etc. Test of Rhodamine B adulteration in chili powder is done by surface-enhanced Raman spectroscopy using citrate-coated silver nanoparticles.