

## 5. Food Safety

### Food Preservation

- - Microorganisms act on food items and spoil them.
  - Process of preventing the spoilage of food items by the action of microbes is called food preservation.

### Food Spoilage

- Mishandling of foods led to the deterioration of food quality.
- Growth of microorganisms due to the undesirable changes in the environment.

### Methods of food preservation

- **Chemical methods**
  - The chemicals that controls the growth of microorganisms on food are called preservatives. For example, sodium benzoate, sodium metabisulphite, salts and edible oil.
  - Common salt is used as preservative in pickles, to preserve meat and fish.
- **Heat and cold treatments**
  - Boiling the milk helps in killing microorganisms present in it.
- Pasteurization is a technique of preserving milk in which it is boiled to about 70°C for 15 to 30 seconds and then suddenly chilled and stored.
- Storage and packing: Dry fruits and vegetables are stored in sealed air tight packets to prevent microbial attack.

- **Methods of food preservation**

- Common salt is used as preservative in pickles. It is also used to preserve meat and fish.
- Sugar is used as preservative in jams and jellies.
- Oil and vinegar are used as preservatives in pickles and vegetables.

- **Heat and cold treatments**

1. Boiling the milk helps in killing microorganisms that are present in food.
2. Pasteurization is a technique of preserving milk in which it is boiled to about 70°C for 15 to 30 seconds and then suddenly chilled and stored.

- **Storage and packing**

Dry fruits and vegetables are sealed in air tight packets to prevent microbe attack.

1. **Food adulteration:** The process of intentionally mixing, altering and substituting the food products with cheap, poor quality, inedible and toxic substances is known as food adulteration.

2. **Adulterants:** Substances used to reduce the quality of food products are known as adulterants.

3. Food item is considered adulterated if:

- (i) Inferior or cheaper substance is substituted.
- (ii) Substance is obtained from diseased animal or poisonous ingredients.
- (iii) Substance contains unprescribed colour or preservative.

4. Some adulterants used for different food material are: Linseed oil, detergent, urea, starch, chalk powder, Kesari *dal*, lead chromate, black gram husk, cashew husk, etc.

5. **Prevention of Food Adulteration Act**, 1954 was formed so as to prevent food adulteration.

6. Two standards under Prevention of Food Adulteration Act are: AGMARK and ISI.