Frequently Asked Question

1. **Which arethe Psychrotrophic microorganisms involved in the spoilage of milk?**

Psychotropic microorganisms have the abilities to grow at low temperatures (3–7◦C). The common organisms are pseudomonads and related aerobic, Gram-negative, rod-shaped bacteria. They normally hydrolyze proteins and lipids. Other important psychrotrophs are Bacillus, Micrococcus, Aerococcus, and Lactococcus.

2. **What are good agricultural practice (GAPs) recommended for the handlers of fruits and vegetables?**

Recommended good agricultural practice (GAPs)for the handlers of fruits and vegetables are

Clean water
Worker health and hygiene
Sanitary facilities
Field sanitation
Packing facilities sanitation
Transportation
Record maintaince for the back tracing of any spoilage

3. **Name the important Food Spoilage Bacteria which produces lactic acids**?
The important Food Spoilage Bacteria which produces of lactic acids are *Lactobacillus, Leuconostoc, Pediococcus, Streptococcus*

4. **Mention the major spoilage organism in poultry**
Salmonella and *Campylobacter* spp. remain the organisms of greatest global concern apart from otherspoilage organisms reportedrecently are*Arcobacter* and *Helicobacter*and *Escherichia coli*.

5. **What are the various types of spoilage organisms in sausage?**
Organism responsible for the spoilage of Fresh uncooked sausage are *Achromobacter* and *Psuedomonas & Microbacterium thermosphactum*. In Cooked sausages spoilage is caused by Lactobacteriaceae, Leuconostoc, Streptococci and Pediococci, Yeast and *Microbacterium thermosphactum*

6. **Name the spoilage indicators under aerobic conditions in meat**
Under aerobic conditions in meat, bacteria are the major spoilage organisms. They cause off odors and off taste, souring due to production of volatile acids, like formic, butyric, propionic acids. They can also make surface sticky/slimy. Mycelial growth may takes place without sporulation which causes white spots.

7. **How does the spoilage of meat happen?**
Meat is an ideal place for many microbes because it is high in moisture, rich in nitrogenous foods of various degree of complexity and plentifully supplied with minerals and accessory growth factors. Entry of spoilage organism to meat are through normal

slaughtering techniques. It also depends on methods of slaughtering such as mechanical, chemical, electrical etc. External microbes which makes entry during bleeding, handling, skinning, cutting and processing. Intestinal tract of animals, exterior of animals (hide, hooves and hairs). The equipment's used like Knives, cloths, air, and hands and clothing of workers.

8. What are the Types of losses in fruits

The Types of losses in fruits are

- Physical spoilage
- Physiological aging
- Spoilage due to insects or rodents
- Mechanical damage
- Chemical and enzyme spoilage
- Microbial spoilage

9. Name some of the fruit rot causing fungi.

The most common pathogens causing rots in vegetables are fungi such as *Alternaria , Botrytis, Diplodia, Monilinia, Phomopsis, Pencillium , Rhizphus, and Fusarium*

10. What is the importance of good food handler's hygiene?

The importance of good food handler's hygiene are

a. To prevent food contamination and spread of disease.
b. To ensure the good health of people eating the food
c. To protect the health of the food handler.

11. Write a note on the general principles for preventing food contamination.

The general principles for preventing food contamination:

- Water used in food preparation should be of good quality and adhere to the standards specified by FSSAI.
- All the utensils must be kept clean and covered.
- All surfaces that come into contact with food should be well cleaned.
- The areas used for storage, preparation and serving of food should be free of pets, rats and insects.
- All type of prepared food should be clearly labeled, covered.
- Food and the utensils should be kept separate from chemicals and poisons.
- Cloths and handling aids that come into contact with dishes and utensils, and that are used to cover food, need to be changed daily and washed in hot water before use.

12. What are the basic objectives of food preservation?

The three basic objectives of food preservation are

- Prevention of contamination of food from damaging agents.
- Prevention or delay of growth of spoilage microorganisms.
- Delay of enzymatic spoilage due to the presence of naturally occurring enzymes within the food (self-decomposition).

13. What are the three stages of preprocessing of food preservation?

The pre-processing of food preservationis divided into three stages of careful handling:
i. Proper packaging
ii. Quick and effective transportation
iii. Providing good storage facilities (silos for grains and cold storages for fruits and vegetables).

14. Write a note on canning as a method of food preservation.

Canning is a process in which heating is done over 100℃ for killing all spoilage organisms and their spores, as well as inactivating enzymes and sealing in sterile airtight containers. The packaging materials for canning can be tin or glass.In this process the food is sterilized. The objective of sterilization is to destroy all microorganisms in the food material. This prevents decomposition of the food, which otherwise would makes it unattractive or inedible. Sterilization also prevents any pathogenic (disease-producing) organisms from contaminating the food. Pathogenic toxins may be produced during storage of the food if certain organisms are still viable. Microorganisms are destroyed by heat, but the amount of heating required for the killing of different organisms varies. Also, many bacteria can exist in two forms, the vegetative or growing form and the spore or dormant form. The spores are much harder to destroy by heat treatment than the vegetative forms.

15. Which is the commonly employed method for the complete removal of microbes from clear liquids?

Filtration is a method used for the complete removal of microorganisms. This method can be successfully applied only to clear liquidseg. Water, fruit juices, beer, soft drinks and wine. The filter used are made of asbestos pads, unglazed porcelain and similar materials. The filters are sterilised and made “bacteria proof” before they are used. The liquid is filtered by passing through the filters under pressure.