

➤ L9- Food Preservation

## Keywords

perishability	pickling	preservatives'
spoilage	shelf life	blanching
excess produce	enzymes	Dehydration
harvest	pasteurizing	asafoetida
treat food	canning	pulp

## In-text Questions

### In-text Questions 9.1

- Which of the following will not help to arrest the action of micro-organisms on tomatoes :
  - put them in boiling water
  - put them in a freezer
  - leave them on the shelf.✓

- List four ways of delaying action of micro-organisms on apples.

Answer: The four ways of delaying action of micro-organisms on apples are:

- Freezing them
  - Making them into Jam
  - Not peeling them till they are consumed
  - Packing them in polythene.aluminium foil.
- Define preservation and shelf life.

Preservation: Food preservation is a form of processing of food to prevent it from spoilage and making it possible to store in a fit condition for future use.

Shelf life: The time period for which a food can remain fit for human consumption at optimum temperature.

## In-text Questions 9.2

1. The common preservative used in making squashes is:

- a. KS
- b. KSM
- c. KMS ✓

2. Oil in pickles

- a. delays the action of micro-organisms.
- b. kills the micro-organisms.
- c. stops the action of micro-organisms. ✓
- d. stops the action of enzymes.

3. Freezing preserves food because it:

- a. delays the action of micro-organisms. ✓
- b. kills the micro-organisms.
- c. stops the action of micro-organisms.
- d. stops the action of enzymes.

4. Write the steps for preparation of mango pickle.

Answer: The steps for preparation of mango pickle are:

- i. Wash mangoes.
- ii. wipe with clean cloth.
- iii. cut into pieces.

- iv. mix in salt and spices.
- v. place in clean bottles.
- vi. cover with oil.
- vii. close with tight fitting lid.

5. Write the steps of freezing *methi* leaves?

Answer: The steps of freezing *methi* leaves are:

- i. Wash methi well.
- ii. Pluck the leaves and tender stems.
- iii. Pack in small polythene packets and seal.
- iv. Place in the freezer.

## Terminal Questions

1. What is food preservation?

Answer: Food preservation is a form of processing of food to prevent it from spoilage and making it possible to store in a fit condition for future use.

It may be as simple as boiling of milk or as complicated like pickling of mango or lemon. By preserving foods, we are also increasing their shelf life.

2. Give four reasons why we should preserve food.

Answer: The four reasons to preserve foods are:

- i. To increase the shelf life of foods.
- ii. To prepare new products like jams, papads, pickles, etc. Such products are enjoyed by everyone and all the year round.

- iii. Processing reduces the bulk of fruits and vegetables. Then, the storage and transportation becomes easier, e.g., 1 kg of carrots would take more space than 1 kg of carrot *murraba*.
  - iv. Helps in utilizing the food stuffs when available in excess.
3. Suggest the best method to preserve the following foods and give one reason for each selection:
- e. Orange juice
  - f. Raw mango
  - g. Apple
  - h. Potato
  - i. Carrots

Answer:

Sl No.	Food	Best Method of Preservation	Reason
a	Orange juice	Freezing	<ul style="list-style-type: none"> <li>To prevent fermentation</li> <li>Tastes better when cold</li> </ul>
b	Raw mango	Pickling	<ul style="list-style-type: none"> <li>Prevents fungus formation</li> <li>Tastes good</li> </ul>
c	Apple	Making Jam	<ul style="list-style-type: none"> <li>Retains the fruit sweetness</li> <li>Can be eaten at places where Apples do not grow</li> </ul>
d	Potato	Dehydration	<ul style="list-style-type: none"> <li>Chips are enjoyed by all age groups</li> <li>Can be fried and eaten instantly</li> </ul>

SI No.	Food	Best Method of Preservation	Reason
e	Carrots	Freezing	<ul style="list-style-type: none"> <li>To use for a longer period of time in curries, soups and salads</li> </ul>

## Previous Year Questions

1. Name *two* chemicals used to preserve food, and also mention their roles. 2

Answer: The two chemicals used to preserve food, and their roles are:

SINo.	Chemicals	Role
1	sodium benzoate	<ul style="list-style-type: none"> <li>Prevents spoilage from harmful bacteria, yeasts, and molds.</li> <li>It also helps maintain freshness in food by helping to slow or prevent changes in color, flavor, PH, and texture</li> </ul>
2	potassium metabisulphite	<ul style="list-style-type: none"> <li>Preserves the natural colour of food.</li> <li>Protects against bacteria.</li> </ul>

2. What is the principle of preservation in the process of dehydration? Mention *three* advantages of dehydrated foods. List the steps of dehydrating methi leaves (Fenugreek leaves). 6

Answer: Dehydration means the use of controlled conditions of heating, with the forced circulation of air.

- Dried (dehydrated) foods are preserved because the available moisture level is so low that micro-organisms cannot grow and enzyme activity is controlled.

The *three* advantages of dehydrated foods are:

- i. Less weight
- ii. Easy to transport
- iii. Easy to store

The steps of dehydrating methi leaves (Fenugreek leaves) are:

- i. Pluck the methi leaves and tender stalks.
- ii. Washed methi leaves thoroughly.
- iii. Spread on a clean cloth and sun dry.
- iv. Cover with a muslin cloth to prevent contamination by dust.
- v. After drying, store in clean, dry, air-tight containers

3. Outline the steps of preparing an orange squash. 4

Answer: The steps in the preparation of orange squash are:

- i. Extract the orange fruit juice.
- ii. Filter the juice through a sieve to remove seeds and any pulp.
- iii. Keep this juice in a container.
- iv. Make a syrup with sugar and water.
- v. Boil this sugar syrup.
- vi. Add citric acid to the syrup and remove from flame when a white layer forms at the top.
- vii. Cool the syrup and filter it.
- viii. Mix with the juice extracted, add colour and essence.
- ix. Add chemical preservatives if you wish to, and put in sterilized bottles leaving some head space.

4. Describe the procedure of making banana chips at home. **[4]**

Answer: The procedure for making banana chips at home is:

- i. Wash raw bananas.
- ii. Peel and cut into circular pieces of 2-3 mm thickness.
- iii. Dip the pieces in boiling water for 3-4 minutes.
- iv. Take out and dip the banana slices in cold water containing little salt and potassium metabisulphite for 10 minutes.

Note: For 1 liter of water, add 20 grams of salt and 3 grains of potassium metabisulphite. This is done to prevent blackening of the vegetables.

- v. Strain and arrange the banana slices on a tray or polythene sheet. Cover with muslin cloth and place in the sun for several days till completely dry.
- vi. Store in air-tight containers or pack in polythene bags.

5. Guide your sister to make potato chips at home. Mention four other foods you would preserve by using this method. **[6]**

Answer: The procedure for making potato chips at home is:

- i. Wash potatoes.
- ii. Peel and cut into circular pieces of 2-3 mm thickness.
- iii. Dip the pieces in boiling water for 3-4 minutes.
- iv. Take out and dip the potato slices in cold water containing little salt and potassium metabisulphite for 10 minutes.

Note: For 1 liter of water, add 20 grams of salt and 3 grains of potassium metabisulphite. This is done to prevent blackening of the vegetables.

- v. Strain and arrange the potatoes slices on a tray or polythene sheet. Cover with muslin cloth and place in the sun for several days till completely dry.
- vi. Store in air-tight containers or pack in poythene bags.

*The four other foods that can be preserved similarly are Raw banana, tapioca, Yam, and jackfruit.*

6. What process will you use to make potato chips which can be stored for a long time? 6

Answer: Same as Q 5

7. Guide your friend about extraction of juice and calculation of sugar and water required for preparing pineapple squash. 4

Answer: To prepare pineapple squash:

- i. Extract the pineapple fruit juice.
- ii. Filter the juice through a sieve to remove seeds and any pulp.
- iii. Keep this juice in a container.
- iv. Make a syrup with sugar and water.

Note: For 1 ltr juice take 11/2 kg sugar and ¾ ltr water.

- v. Boil this sugar syrup.
- vi. Add citric acid to the syrup and remove from flame when a white layer forms at the top.
- vii. Cool the syrup and filter it.
- viii. Mix with the juice extracted, add colour and essence.
- ix. Add chemical preservatives if you wish to, and put in sterilized bottles leaving some head space.



8. Write the method of preparing lemon pickle for your father who is on fat-free diet. 6

Answer: The method of preparing lemon pickle for father who is on fat-free diet is:

- i. Select round, fully mature and juicy lemons.
- ii. Wash well and dry.
- iii. Cut each lemon into 8 pieces.
- iv. Put in a clean jar.
- v. Add all the spices and sugar.
- vi. Shake well.
- vii. Keep the pickle in sun for 10-12 days, shaking it occasionally.

Name any **four** popular methods used for preserving foods at home.

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9. Describe the steps of preserving apples at home.

Answer: The four methods of preserving foods at home are:

- i. Dehydration (Drying)
- ii. Pickling with salt, spices and/or oil
- iii. Making jams, jellies, murabbas
- iv. Bottling of squashes and juices
- v. Freezing

The steps for preserving apples at home are:

- Not to peel them



- Make jam by boiling the fleshy part (pulp) of the fruit with sufficient quantity of sugar to a thick mixture.
- Wrap them in polythene/Aluminum bags
- Blanching and sun drying