

SOLUTION TO TEXT QUESTIONS

2. Microorganisms : Friend and Foe

Multiple Choice Questions (MCQs) based on CCE

Page No. 23

1. (a) 2. (c) 3. (b) 4. (d) 5. (b)

Multiple Choice Questions (MCQs) based on CCE

Page No. 27

1. (c) 2. (b) 3. (a) 4. (c) 5. (a)

PRACTICE FOR FORMATIVE ASSESSMENT BASED ON CCE (Page 30)

A. Oral Questions/Science Quiz.

- Making of curd
 - Making of breads, pastries and cakes
 - Making of alcohol, wine and beer
 - Production of Antibiotics
 - Production of vaccines
- The toxic substances which are produced by microorganisms, make the food poisonous and cause serious illness, this is called food poisoning.
- The process by which spoilage of food is prevented by using chemical or physical methods is called food preservation.

B. THINK and TELL/HOTS (Higher Order Thinking Skills) questions.

- Microorganisms decompose dead organic wastes of plants and animals by converting them into harmless simpler substances. In this way, they help to keep the environment clean.
- On high temperature
 - On high temperature and minimum contact of air with food material
 - On low temperature
 - On minimum moisture

C. Worksheet (Class test/Paper-pen Test).

1. Tick (✓) the correct answer.

- (a) (iv) (b) (i) (c) (iii) (d) (ii)

2. Fill in the blanks.

- (a) immunity (b) nitrogenous compounds (c) *Salmonella* (d) preservative

PRACTICE FOR SUMMATIVE ASSESSMENT-1, BASED ON CCE (Page 31)

A. Multiple Choice Questions (MCQs) Scientific/Practical skills

1. (b) 2. (b) 3. (c)

B. Very Short Answer Questions.

- Streptomycin and tetracycline
- Common cold and chickenpox
- Sodium benzoate

C. Short Answer Type-I Questions.

1. Pasteurisation is a process for preservation of milk. In this process, milk is heated at about 70°C for 15 to 30 seconds to kill the bacteria present in it and cooling it quickly to 10°C to prevent the remaining bacteria from growing. The milk is then stored in sterilized bottles or pouches in cold places.
2. Because low temperature decreases the growth of microorganisms and refrigerator provides a low temperature and hence food is preserved.

D. Short Answer Type-II Questions.

1. For making curd from milk we have to add some curd into lukewarm milk. Curd contains bacteria (*Lactobacillus*), these bacteria multiply and produce acidic products. The milk curdle and thickens to form curd.
2. Leguminous plants contain *Rhizobium* bacteria in the nodules of their roots which absorb nitrogen gas and convert it into nitrates. When roots are decomposed these nitrates mix with the soil and increase the soil fertility.
3. (a) Common cold and influenza
(b) Cholera and tuberculosis
(c) Malaria and sleeping sickness

E. Long Answer Questions.

1. Preservation by Common Salt

For centuries, people have preserved fish and meat by salting. Meat and fish are covered with dry common salt. Salting draws out water from the food, thus, prevents microbial growth and reproduction. Salting is also used to preserve amla, raw mangoes, tamarind, etc.

Preservation by Sugar

Sugar reduces the moisture content of the food, thus, inhibits the growth of food-spoiling microorganisms. Jams, jellies and squashes are preserved by sugar.

Advantages of Food Preservation

1. It decreases the food wastage by avoiding spoilage.
 2. It increases the storage period of food materials.
 3. Nutritional value of the food is retained for a longer period.
 4. It ensures the food availability in distant places and during off-season. Frozen food items (such as 'safal' vegetables) and off-season fruits and vegetables are available in the market throughout the year all over the country.
- (a) **Nitrogen fixation:** The conversion of nitrogen into nitrates.
 - (b) **Nitrate assimilation:** The conversion of nitrates into plant and animal proteins by plants and animals.
 - (c) **Ammonification:** The conversion of plant and animal proteins into ammonium compounds by the putrefying bacteria and fungi found in the soil.
 - (d) **Nitrification:** The conversion of ammonium salt into nitrites by nitrozomonous bacteria, then conversion of nitrites into nitrates by nitrobacter bacteria.
 - (e) **Denitrification:** The conversion of nitrates into free nitrogen gas by denitrifying bacteria (*Pseudomonas* bacteria)

VALUE BASED QUESTION

SUMMATIVE ASSESSMENT

Microorganisms decompose dead organic waste of plants and animals and help in keeping the environment clean.

1. Name any two microorganisms which keep the environment clean by decomposing dead organic wastes.

Ans. Bacteria and fungi.

2. Being a student, how can you contribute in keeping the environment clean? Give two ways.

Ans. (i) Reducing the use of fossil fuels.

(ii) Planting more and more trees.