

Very Short Answer Questions

Q. 1. Suggest a suitable word for each of the following statements. [NCERT Exemplar]

- (i) Chemicals added to food to prevent growth of microorganisms.**
- (ii) Nitrogen-fixing microorganism present in the root nodules of legumes.**
- (iii) Agent which spreads pathogens from one place to another.**
- (iv) Chemicals which kill or stop the growth of pathogens.**

Ans. (i) Preservatives

(ii) Rhizobium

(iii) Carrier/vector

(iv) Antibiotics

Q. 2. Name one commercial use of yeast.

Ans. Baking bread/manufacture of alcoholic drinks.

Q. 3. Name the process in yeast that converts sugars into alcohol.

Ans. Fermentation

**Q. 4. In the soil, which nutrient is enriched by blue-green algae (cyanobacteria)
[NCERT Exemplar]**

Ans. Nitrogen

**Q. 5. Why should we avoid standing close to a tuberculosis patient while he/she is coughing?
[NCERT Exemplar]**

Ans. Tuberculosis is an air-borne disease which easily spreads when the infected person coughs.

Q. 6. Polio drops are not given to children suffering from diarrhoea. Why?

Ans. If the child is suffering from diarrhoea, the orally given vaccine may be excreted out because of frequent motions.

Q. 7. Name any two antibiotics.

Ans. Streptomycin and tetracycline.

Q. 8. Name the scientist who discovered the vaccine for small pox in 1798.

Ans. Edward Jenner.

Q. 9. Name the bacterium which causes anthrax disease.

Ans. Bacillus anthracis.

Short Answer Questions

Q. 1. Classify the following into friendly and harmful microorganisms.

Yeast, malarial parasite, Lactobacillus, bread mould, Rhizobium, Bacillus anthracis

[NCERT Exemplar]

Ans.

Friendly	Harmful
Yeast	Malarial parasite
Lactobacillus	Bread mould
Rhizobium	Bacillus anthracis

Q. 2. While returning from the school, Boojho ate chaat from a street hawker. When he reached home, he felt ill and complained of stomach ache. What could be the reason? [NCERT Exemplar]

Ans. The probable reason is that the chaat was contaminated by pathogenic microbes due to unhygienic conditions near the shop or the utensil used for serving could have contaminated.

Q. 3. What will happen to 'pooris' and 'unused kneaded flour' if they are left in the open or a day or two? [NCERT Exemplar]

Ans. The 'unused kneaded flour', if left in warm conditions, gets infected by microbes which cause fermentation and spoils the flour. The pooris would remain in regulatively good condition because they were deep fried in heated oil that kills microbes.

Q. 4. (a) Name two diseases that are caused by virus.

(b) Write one important characteristic of virus. [NCERT Exemplar]

Ans. (a) Polio/Chickenpox/Influenza.

(b) Virus can reproduce only inside the cells of host.

Q. 5. Why we have to add a little curd to warm milk to set curd for next day?

Ans. Curd contains several microorganisms, of these the bacterium, Lactobacillus promotes the formation of curd. It multiples in milk and converts it into curd.

Q. 6. What are antibiotics?

Ans. The medicine that kills or stop the growth of the disease-causing microorganisms are called antibiotics.

Q. 7. What do you mean by communicable diseases?

Ans. The microbial diseases that can spread from an infected person to a healthy person by some agents like air, water, food or physical contact are called communicable diseases.

Q. 8. How should we prevent spread of communicable diseases?

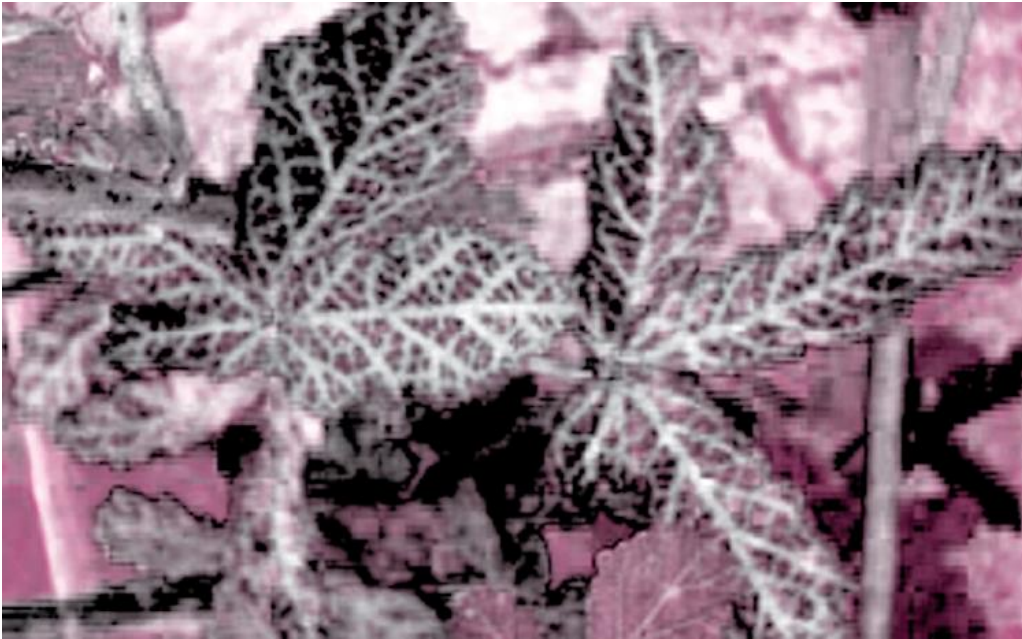
Ans. We should keep a handkerchief on the nose and mouth while sneezing. It is better to keep a distance from infected person.

Q. 9. How do vaccines work? [NCERT Exemplar]

Ans. Vaccines contain dead or weakened microbes of a particular disease. When a vaccine is introduced into a healthy body, the body fights and kills them by producing suitable antibodies. These antibodies remain in the body and protect it when the microbe enters the body again.

Long Answer Questions

**Q. 1. Observe the figure given below and answer the questions that follows.
[NCERT Exemplar]**



- (i) Write the name of the disease.**
- (ii) Name the causative agent of this disease.**
- (iii) How does the disease spread from one plant to another?**
- (iv) Name any two plant diseases and the microbes that cause them.**

Ans. (i) Yellow vein mosaic of lady's finger/okra

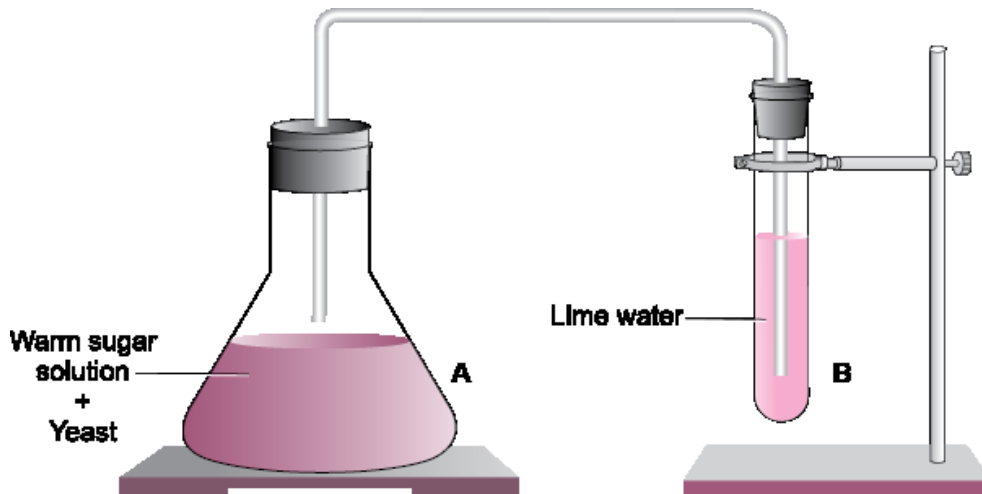
(ii) Virus

(iii) The disease spreads from one plant to another through insects.

(iv) (i) Citrus canker caused by bacteria

(ii) Rust of wheat caused by fungus or any other disease

**Q. 2. Observe the set-up given below and answer the following questions.
[NCERT Exemplar]**



(i) What happens to the sugar solution in A?

(ii) Which gas is released in A?

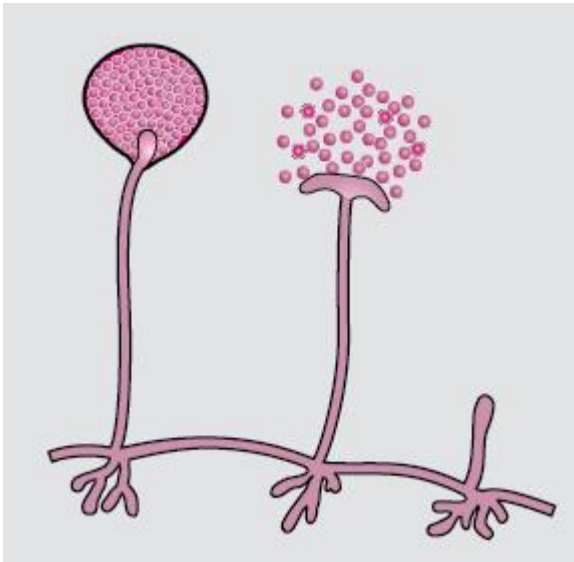
(iii) What changes will you observe in B when the released gas passes through it?

Ans. (i) Yeast causes fermentation converting sugar into alcohol and carbon dioxide.

(ii) Carbon dioxide

(iii) Lime water turns milky

Q. 3. Observe the figure given below and answer the following questions.
[NCERT Exemplar]



(i) Name the microorganism and the group to which it belongs.

(ii) Name the food item on which the organism grows.

(iii) Does it grow well in dry or in moist conditions?

(iv) Is it safe to eat infected bread?

Ans. (i) Bread mould. It is a fungus.

(ii) Moist and stale bread.

(iii) It grows well in moist conditions.

(iv) Though mosquitoes live on land, their larvae grow in water. If water stagnation is prevented the larvae cannot survive.

Q. 4. Give reasons for the following. [NCERT Exemplar]

(i) Fresh milk is boiled before consumption while processed milk stored in packets can be consumed without boiling.

(ii) Raw vegetables and fruits are kept in refrigerators whereas jams and pickles can be kept outside.

(iii) Farmers prefer to grow beans and peas in nitrogen deficient soils.

(iv) Mosquitoes can be controlled by preventing stagnation of water though they do not live in water.

Ans. (i) Fresh milk is boiled before consumption to kill the microorganisms in it. But packed milk is pasteurised and does not contain any microorganisms. It can thus be consumed without boiling.

(ii) Raw vegetables and fruits get easily infected by microorganisms and get spoilt. They are kept in refrigerator as low temperature inhibits growth of microbes. Jams and pickles contain sugar and salt as preservatives. They do not get infected by microbes easily.

(iii) Beans and peas are leguminous plants and have Rhizobium in their root nodules. These bacteria can fix atmospheric nitrogen to enrich the soil with nitrogen and increase its fertility.

(iv) Though mosquitoes live on land, their larvae grow in water. If water stagnation is prevented the larvae cannot survive.

Q. 5. How can we prevent the following diseases? [NCERT Exemplar]

(i) Cholera

(ii) Typhoid

(iii) Hepatitis A

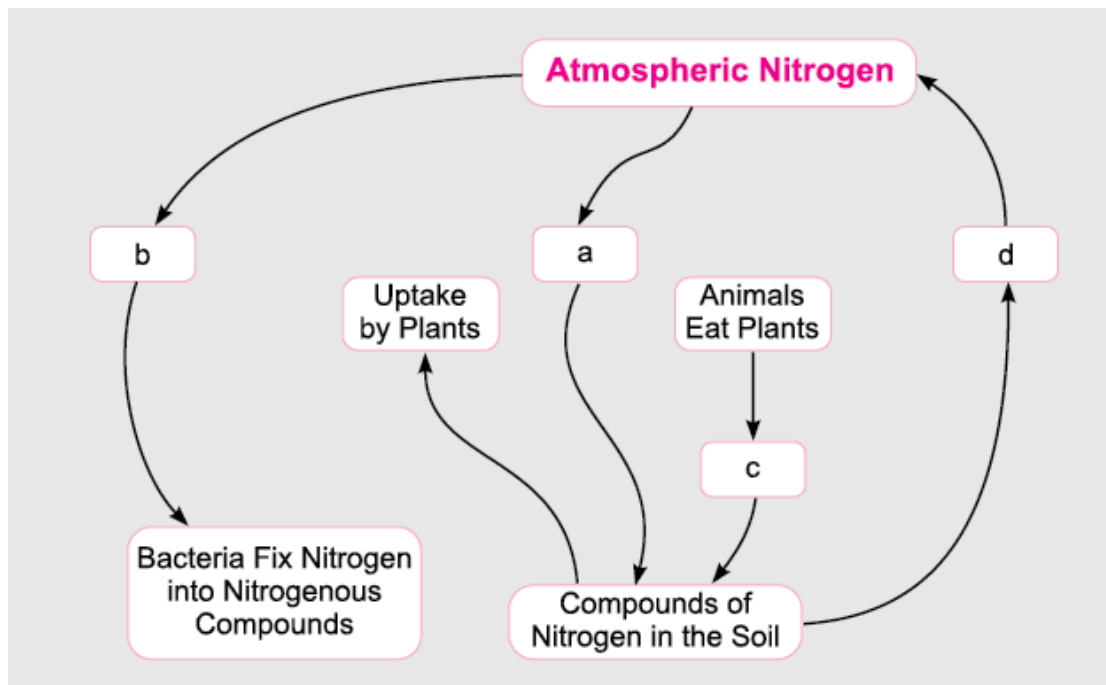
Ans. (i) Cholera: By maintaining personal hygiene and good sanitation practices.

(ii) Typhoid: Eating properly cooked food, drinking boiled water, getting vaccinated against the disease.

(iii) Hepatitis A: Drinking boiled water and getting vaccinated against the disease.

Q. 6. Complete the following cycle given below by filling the blanks (a), (b), (c), (d).

[NCERT Exemplar]



Ans. a. Lightning fixes nitrogen.

b. Nitrogen fixing bacteria and blue-green algae fix atmospheric nitrogen.

c. Nitrogenous waste from excretion and death.

d. Bacteria turn compounds of nitrogen into gaseous nitrogen.

Hots (Higher Order Thinking Skills)

Q. 1. Paheli watched her grandmother making mango pickle. After she bottled the pickle, her grandmother poured oil on top of the pickle before closing the lid. Paheli wanted to know why oil was poured. Can you help her understand why? [NCERT Exemplar]

Ans. Oil prevents bacteria from attacking the pickle and spoiling it.

Q. 2. What will happen if spoilt food is consumed?

Ans. Spoilt food contains microorganisms which produce toxic substances in our body when consumed. This leads to food poisoning.

Q. 3. Why does curd set faster in summers than in winters?

Ans. This is because in summers, the bacterium responsible for turning milk into curd, Lactobacillus, gets an optimum temperature for growth and thus multiplies faster.