



Microorganisms: Friend and Foe

Question 1.

Fill in the blanks.

- (a) Microorganisms can be seen with the help of a _____
- (b) Blue-green algae fix _____ directly from the air to enhance the fertility of soil.
- (c) Alcohol is produced with the help of _____
- (d) Cholera is caused by _____

Answer:

- (a) microscope
- (b) nitrogen
- (c) yeast
- (d) bacteria

Question 2.

Tick the correct answer.

- (a) Yeast is used in the production of
 - (i) sugar
 - (ii) alcohol
 - (iii) hydrochloric acid

(b) The following is an antibiotic:

- (i) sodium bicarbonate
- (ii) streptomycin
- (iii) alcohol
- (iv) yeast

Answer:

- (ii) streptomycin

c) Carrier of malaria-causing protozoan is:

- (i) female Anopheles mosquito
- (ii) cockroach
- (iii) housefly
- (iv) butterfly

Answer:

- (i) female Anopheles mosquito

(d) The most common carrier of communicable diseases is

- (i) ant
- (ii) housefly
- (iii) dragonfly
- (iv) spider

Answer:

- (ii) housefly

(e) The bread or idli dough rises because of:

- (i) heat
- (ii) grinding
- (iii) growth of yeast cells
- (iv) kneading

Answer:

- (iii) growth of yeast cells

(f) The process of conversion of sugar into alcohol is called

- (i) nitrogen fixation
- (ii) moulding
- (iii) fermentation
- (iv) infection

Answer:

- (iii) fermentation

Question 3.

Match the organisms in column A with their action in column B.

A	B
(i) Bacteria	(a) Fixing nitrogen
(ii) Rhizobium	(b) Setting of curd
(iii) Lactobacillus	(c) Baking of bread
(iv) Yeast	(d) Causing malaria
(v) A protozoan	(e) Causing cholera

Answer:

- (i) (e)
- (ii) (a)
- (iii) (b)
- (iv) (c)
- (v) (d)
- (vi) (f)

Question 4.

Can microorganisms be seen with the naked eye? If not, how can they be seen?

Answer:

The microorganisms cannot be seen with our naked eyes because they are very small in size. Some of these, such as fungus growing on bread, can be seen with a magnifying glass. Others cannot be seen without the help of a microscope.

Question 5.

What are the major groups of microorganisms?

Answer:

Microorganisms are classified on the basis of their size into four major groups. These groups are:

- (a) Bacteria
- (b) Fungi
- (c) Protozoa
- (d) Some algae

Question 6.

Name the microorganisms which can fix atmospheric nitrogen in the soil.

Answer:

Rhizobium, Clostridium and Azotobacter.

Question 7.

Write 10 lines on the usefulness of microorganisms in our lives.

Answer:

Microorganisms are useful to us in many ways. For example,

- Bacteria like Lactobacillus convert milk into curd.
- Bacteria are also involved in the making of cheese.
- Acetobacter aceti is used for producing acetic acid from alcohol.
- Yeast is used in the commercial production of alcohol, wine and bakery products.
- Some specific microorganisms are helpful in manufacturing of antibiotics.
- Microorganisms act as cleansing agents and decompose the waste products into manure.
- Dead or weakened microbes are used in the preparation of vaccine
 - Some bacteria fix atmospheric nitrogen and increase soil fertility.
 - Algae, yeast, fungi or bacteria may be used as an ingredient or a substitute for protein-rich foods that are suitable for human or animal consumption.
 - Some microorganisms are taken as probiotics, that are believed to provide health benefits when consumed.

Question 8.

Write a short paragraph on the harms caused by microorganisms.

Answer:

Microorganisms are harmful to us in many ways. For example, microorganisms, called pathogens cause disease in humans, plants and animals. Pathogens or germs enter a healthy body through air, water, contaminated food and infected person by direct or

indirect contact or by the carrier. Common ailments like cold, influenza (flu), cough, polio, chicken pox are caused by viruses. Foot and mouth diseases in the cattle are also caused by viruses. Typhoid, tuberculosis (TB) are caused by bacteria. Anthrax a dangerous human and cattle diseases is also caused by bacteria.

Diseases like dysentery and malaria are caused by protozoa. Ringworm is caused by fungi. Several microbes causes diseases in plants and thus reduces the yield. Citrus canker, a bacterial disease, affects trees of citrus fruit and is spread by air. Bheni yellow vein mosaic disease is caused by a virus and is spread by insects in lady fingers. Rust of wheat is a fungal disease spread through air. Microorganisms that grow on our food sometimes produce toxic substances. These make the food poisonous causing serious illness and even death. This food born illness is called food poisoning.

Question 9.

What are antibiotics? What precautions must be taken while taking antibiotics?

Answer:

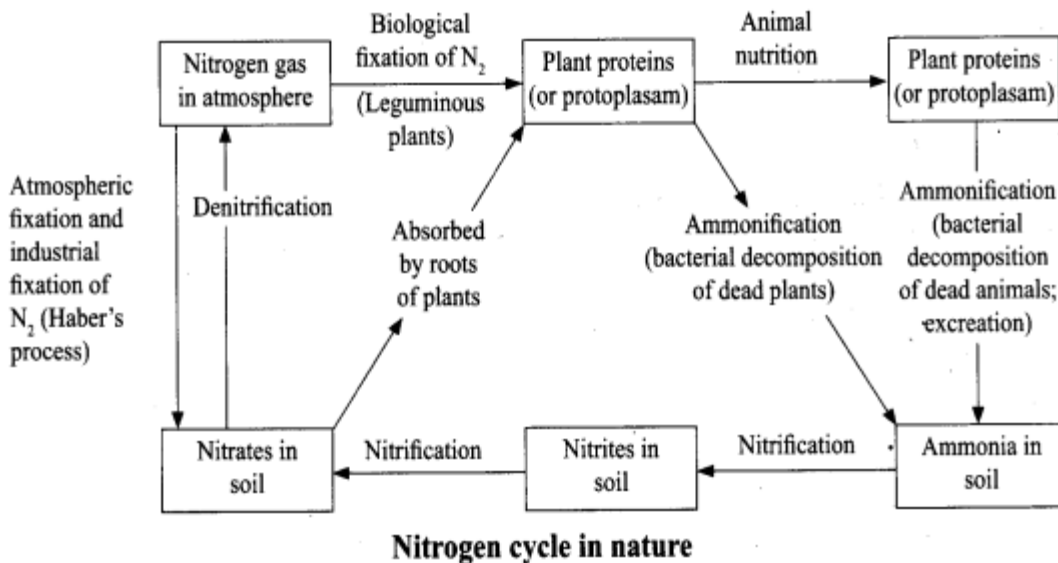
Antibiotics are the medicines which kill or stop the growth of the disease-causing microbes. They are manufactured by growing specific emicroorganisms. They are used to cure a variety of diseases.

It is important to take antibiotic only on the advice of a qualified doctor. One must finish the course prescribed by the doctor to make the drug more effective. Antibiotics must not be taken unnecessarily because it may kill beneficial bacteria also. Antibiotics are, however, not effective against cold and flu as they are caused by viruses.

Question 10

Describe the nitrogen cycle with the help of a neat and labelled diagram.

Answer:



Question 11

Write 10 lines on the usefulness of microorganisms in our lives.

Answer:

Microorganisms are useful in our lives in the following ways :

- Bacteria cause the decay of dead plants and animals.
- Nitrogen fixing bacteria convert the atmospheric nitrogen into nitrates.
- Bacteria are used in the production of vinegar, curd, cheese, etc.
- Bacteria are used in sewage disposal plants.
- Scientists have discovered ways to change bacteria so that they produce valuable medical, agricultural and industrial product
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- Question 12.
-
- Write a short paragraph on the harms caused by microorganisms

Answer:

- Microorganisms cause diseases in human beings, plants and animals.
- Microorganisms spoil food and cause food poisoning.