



## CLASS VIII: Science

## Chapter 2: Microorganism: Friend and Foe

## Questions and Solutions | Page 29 - NCERT Books

**Q1.** Fill in the blanks:

- (i) Microorganisms can be seen with the help of a \_\_\_\_\_.
- (ii) Blue green algae fix \_\_\_\_\_ directly from air to enhance fertility of soil.
- (iii) Alcohol is produced with the help of \_\_\_\_\_.
- (iv) Cholera is caused by \_\_\_\_\_.

**Ans.**

- (i) Microscope
- (ii) Atmospheric nitrogen
- (iii) Yeast
- (iv) Bacteria

**Q2.** Tick the correct answer—

- (a) Yeast is used in the production of
  - (i) Sugar
  - (ii) Alcohol
  - (iii) Hydrochloric acid
  - (iv) Oxygen
- (b) The following is an antibiotic
  - (i) Sodium bicarbonate
  - (ii) Streptomycin
  - (iii) Alcohol
  - (iv) Yeast
- (c) Carrier of malaria causing protozoan is
  - (i) Female Anopheles mosquito
  - (ii) Cockroach
  - (iii) Housefly
  - (iv) Butterfly
- (d) The most common carrier of communicable diseases is
  - (i) Ant
  - (ii) Housefly
  - (iii) Dragonfly
  - (iv) Spider
- (e) The bread or idli dough rises because of
  - (i) Heat
  - (ii) Grinding
  - (iii) Growth of yeast cells
  - (iv) Kneading



- (f) The process of conversion of sugar into alcohol is called  
 (i) Nitrogen fixation  
 (ii) Moulding  
 (iii) Fermentation  
 (iv) Infection

**Ans.** (a) ii (b) ii (c) i (d) ii  
 (e) iii (f) iii.

**Q3.** Match the organisms in column-I with their actions in column-II

	Column-I		Column-II
(1)	Bacteria	(a)	Nitrogen fixation
(2)	Rhizobium	(b)	Setting of curd
(3)	Lactobacillus	(c)	Baking of bread
(4)	Yeast	(d)	Causes Malaria
(5)	A Protozoan	(e)	Causing Cholera
(6)	A virus	(f)	Causing AIDS
		(g)	Producing antibodies

**Ans.** (1) e (2) a (3) b (4) c (5) d (6) f.

**Q4.** Can microorganisms be seen with the naked eye? If not, how can they be seen?

**Ans.** No, microorganisms can not be seen with naked eyes. They are so small that they can not be seen with naked eyes. A microscope is required to see these organisms.

**Q5.** What are the major groups of microorganisms?

**Ans.** Microorganisms are mainly divided into five groups : Bacteria, Fungi, Protozoa, Algae and Virus.

**Q6.** Name the microorganisms which can fix atmospheric nitrogen in the soil.

**Ans.** Certain type of bacteria and blue green algae fix atmospheric nitrogen. For example Bacteria like Rhizobium, Azotobacter and blue green algae like- Anabaena, Nostoc.

**Q7.** Write ten lines on the usefulness of microorganisms in our lives.

**Ans.** Microorganisms are very useful to us. Some of their usefulness is as follows:

- (i) They are used in the preparation of curd, bread and cake. Lactobacillus promotes the formation of curd and Yeast in the baking industry.
- (ii) Commercially microorganisms are used for the large scale production of alcohol, wine and vinegar.
- (iii) Yeast is used for commercial production of alcohol and wine while, Acetobacter bacteria cause conversion of alcohol to vinegar.
- (iv) In medical industry antibiotics are made from microorganisms like - some fungi and bacteria.
- (v) Microorganisms are also used to prepare vaccines for various diseases.
- (vi) Microorganisms (bacteria) help us in cleaning of our environment as they decompose the



dead bodies of plants and animals and other organic wastes.

- (vii) In agriculture, microorganisms are used to increase soil fertility by fixing nitrogen.
- (viii) Some bacteria like - Rhizobium and some blue green algae are able to fix nitrogen from the atmosphere to enrich soil and thus increase its fertility.
- (ix) It is due to the activities of microorganisms because of which we are able to prepare manure by decomposing organic wastes and dead bodies of plants and animals.
- (x) In food industry, they are used as preservatives for food items. Further, some fungi are eaten raw as food such as, Mushrooms.

**Q8.** Write a short paragraph on the harms caused by microorganisms.

**Ans.** Microorganisms can be very harmful to us, as they cause a number of human and animal diseases. Diseases in humans like common cold, tuberculosis, measles, chicken pox, polio, cholera, typhoid, hepatitis-B, malaria etc. all are caused by microorganisms. Some serious diseases like Anthrax is a dangerous human and cattle disease caused by a bacterium. Microbes grow on food products and render them unfit for consumption. Consumption of such food causes food poisoning. Microbes also spoil clothes and leather products. Microorganisms cause diseases of plants like - blights in potatoes, sugarcane, oranges, rust of wheat citrus canker etc. They also reduce the crop yield.

**Q9.** What are antibiotics? What precautions must be taken while taking antibiotics?

**Ans.** Medicines taken to kill or stop the growth of harmful or disease causing microbes in human body are called antibiotics. Antibiotics are very useful as only antibiotics can save us from many microbial infections and diseases. Antibiotics are made from fungi and bacteria. Alexander Flemming discovered the first antibiotic called Penicillin in 1929. Now-a-days a number of antibiotics are used to cure a variety of human, animal and plant diseases. Streptomycin, Erythromycin, Tetracycline etc are some commonly used antibiotics.

Precautions for taking antibiotics : Antibiotics should only be taken when advised by a qualified physician. Moreover it should only be taken when needed otherwise; they became less effective for future use. Also antibiotics taken unnecessarily may kill the beneficial bacteria in the body.