

1. Fill in the blanks:

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

- Sol.** (a) microscope (b) atmospheric nitrogen
(c) yeast (d) bacteria

2. 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
- Sol.** (a) (ii) (b) (ii)
(c) (i) (d) (ii)
(e) (iii) (f) (iii)

3. Match the organisms in Column I with their action in

<i>Column I</i>	<i>Column II</i>
(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
(vi) A Virus	(f) Causing AIDS
	(g) Producing antibodies

Sol.

<i>Column I</i>	<i>Column II</i>
(i) Bacteria	(e) Causing Cholera
(ii) Rhizobium	(a) Fixing Nitrogen
(iii) Lactobacillus	(b) Setting of curd
(iv) Yeast	(c) Baking of bread
(v) A protozoan	(d) Causing Malaria
(vi) A Virus	(f) Causing AIDS

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

Sol. Microorganisms cannot be seen with the naked eyes. They can be seen only with the help of a microscope.

5. What are the major groups of microorganisms?

Sol. There are following four major groups of microorganisms:

- | | |
|--------------|-----------|
| (a) bacteria | (b) fungi |
| (c) protozoa | (d) algae |

In addition to the above ones viruses are also considered as fifth group of microorganisms.

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

Sol. Bacteria like *Rhizobium*, *Azotobacter* and blue green algae can fix atmospheric nitrogen to the soil.

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

Sol. Uses of microorganisms:

- (a) Microorganisms are used in the preparation of curd, bread, cake, etc.

- (b) They help to produce alcohol at large scale.
- (c) They are used to prepare vinegar.
- (d) They decompose the waste products thus act as cleaning agent.
- (e) They increase soil fertility by fixing atmospheric nitrogen.
- (f) They are used in making medicines like antibiotics and vaccines.
- (g) They help in various metabolic activities in our body.
- (h) They convert the plant and animal remains into manure.
- (i) They are used in the preparation of pickles.
- (j) They are also used to make cheese.

8. Write a short paragraph on the harms caused by microorganisms.

Sol. Microorganisms are harmful to us in many ways. They cause many diseases in plants, and animals including humans. Common cold, Cholera, Dysentery, Typhoid, Malaria, Polio, Chicken Pox are some of the diseases caused by microorganisms in humans.

They cause damage to the clothes, furniture and leather goods.

They damage the food items and cause food poisoning.

The diseases in plants like blights in potatoes, rust of wheat etc. are caused by microorganisms.

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

Sol. Antibiotics are medicines which kill or stop the growth of microorganisms in our bodies. Antibiotics in turn are produced from fungi and bacteria. In 1929, Alexander Fleming discovered penicillin. Other antibiotics used these days are streptomycin, tetracycline etc.

Precautions:- Antibiotics should be taken on advice of a qualified doctor. They should be taken only when needed. Excess use may be harmful or could make them less effective when taken next times.