

1. Fill in the blanks.

- (a) Microorganisms can be seen with the help of a Microscope.
- (b) Blue green algae fix N₂ directly from air and enhance fertility of soil.
- (c) Alcohol is produced with the help of Yeast.
- (d) Cholera is caused by 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

3. Match the organisms in Column **A** with their action in Column **B**.

- | A | B |
|-------------------------------------|--------------------------|
| (i) Bacteria <u>e</u> | (a) Fixing nitrogen |
| (ii) <i>Rhizobium</i> <u>a</u> | (b) Setting of curd |
| (iii) <i>Lactobacillus</i> <u>b</u> | (c) Baking of bread |
| (iv) Yeast <u>c</u> | (d) Causing malaria |
| (v) A protozoan <u>d</u> | (e) Causing cholera |
| (vi) A virus <u>f</u> | (f) Causing AIDS |
| | (g) Producing antibodies |

Answers: 1. (c), 2. (a), 3. (b), 4. (c), 5. (a), 6. (f).

4. Can micro-organisms be seen with the naked eyes? If not, how can they be seen?

Ans. We cannot see micro-organisms with the naked eyes. We use magnifying glass or microscope to see micro-organisms.

5. What are the major groups of micro-organisms?

Ans. Micro-organisms are classified into four major groups, these are :

(i) Bacteria (ii) Fungi (iii) Algae (iv) Protozoa.

(i) Bacteria : These are unicellular micro-organisms. Bacteria are found almost everywhere.

(ii) Fungi : Fungi are unicellular or multicellular micro-organism. These are found mostly in humid or warm places.

(iii) Algae : Algae are unicellular or multicellular organism and mostly found in ponds.

(iv) Protozoa : Protozoa are single called micro-organisms and are mostly found in soil and fresh and marine water, some are found in living organism and are the reason of diseases.



Spiral Bacteria



Rod shaped Bacteria



Chlamydomonas



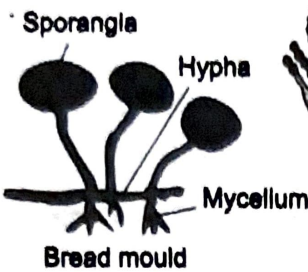
Spirogyra



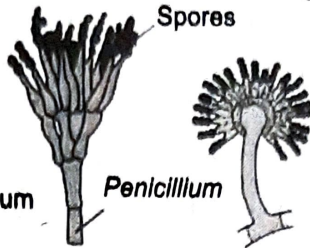
Amoeba



Euglena



Bread mould



Aspergillus

6. Name the micro-organisms which can fix atmospheric nitrogen in the soil.

Ans. *Rhizobium*, *Clostridium* and *Azotobacter*.

7. Write 10 lines on the usefulness of micro-organisms in our lives.

Ans. Micro-organisms are useful for us in many ways, like

- (i) Bacterium, *Lactobacillus* converts milk into curd.
- (ii) Bacteria are also involved in the making of cheese.
- (iii) *Acetobacter aceti* is used for production of acetic acid from alcohol.
- (iv) Yeast is used for commercial production of alcohol and wine.
- (v) Yeast is also used in baking industry for making breads, pastries and cakes.
- (vi) Antibiotics are manufactured by growing specific micro-organisms.
- (vii) Some bacteria fix atmospheric nitrogen and increase the soil fertility.
- (viii) Bacteria are used in the preparation of medicines.
- (ix) Microorganisms prepare manures by decomposition of dead bodies of animals and plants.
- (x) Microorganisms are helpful in our metabolic activities.

8. Write a short paragraph on the harmful effects of micro-organisms.

Ans. Some micro-organisms are useful but some are harmful to us. Microorganisms are harmful in many ways—

1. Some micro-organisms are the cause of disease in human beings, animals and plants.
2. Common ailments like cold, influenza and most coughs are caused by viruses.
3. Serious diseases like polio and chicken pox are also caused by virus.
4. Diseases like dysentery and malaria are caused by protozoan.
5. Typhoid and tuberculosis are caused by bacteria.
6. Ringworm is caused due to fungi.
7. Foot and mouth diseases of cattle are caused by virus.
8. Anthrax in human and cattle diseases are caused by bacteria.
9. Some micro-organisms release toxic substances which grow on food items and are cause of food poisoning.
10. Some micro-organisms spoil leather items, and wooden work.

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

Ans. Antibiotics are the medicines which kill or stop the growth of the disease causing micro-organisms. The antibiotics are manufactured by growing special micro-organism and are used to cure a variety of diseases. The first antibiotic penicillin was discovered by Alexander Fleming in 1929. Antibiotics are helpful to cure but must be taken with precaution—

1. Antibiotics should be taken only on the advise of a qualified doctor.
2. We must finish the course prescribed by the doctor.
3. If we take antibiotics when needed, we help bacteria in our body develop resistance to them.
4. Next time when we will be ill and require these antibiotics they will be less effective.