

Class 8 Micro organism Eureka Plus Science Exercise Answer

I. Tick (✓) the correct options.

1. Microorganisms that can photosynthesise are

- algae, protozoa, viruses.
- some bacteria, blue-green algae, phytoplankton.
- algae, viruses, fungi.
- only viruses.

2. Chlamydomonas move with the help of

- legs.
- moist skin.
- feelers.
- flagella.

3. Milk turns into curd because of the action of

- bacteria called Lactobacilli
- a protozoan called Paramecium.
- a fungus called Penicillium.
- blue-green algae.

4. Polio, chickenpox and AIDS are caused by different

- bacteria.
- viruses.
- fungi.
- flalgae.

5. Malaria is caused by

- protozoan.
- a virus.
- a bacterium.

- an alga.

6. Polio vaccine was developed by

- Louis Pasteur.
- Alexander Fleming.
- Jonas Salk.
- Antonie van Leeuwenhoek.

7. Polio vaccine is made using

- fungi.
- polio bacteria.
- a polio viruses.
- protozoa.

8. The technique used to preserve milk is

- fermentation.
- sterilisation.
- pasteurisation.
- boiling.

II. Match column 'A' with column 'B'.

A		B
1. Mushrooms	<b>b</b>	a. Kind of protozoan
2. Entamoeba histolytica	<b>a</b>	b. Kind of fungi
3. Rabies	<b>d</b>	c. Kind of bacteria
4. Phytoplanktons	<b>e</b>	d. Caused by a virus
5. Rhizobium	<b>c</b>	e. Kind of algae

### III. Identify the following microorganisms.

1. They obtain energy from inorganic chemicals.

Chemosynthetic

2. They are bacteria with chlorophyll.

Photosynthetic

3. They often grow on pickles and fruits.

fungi

4. They are used in making bread.

Yeast

### IV. Answer the following questions in one sentence.

1. Where do microorganisms live?

Microorganisms live in almost all kind of environment such as in air, water, soil, hot springs, snow, saline water, decaying flesh and living bodies of plants and animals.

2. What are phytoplanktons?

Phytoplanktons are plant-like unicellular algae found floating in water.

3. What is mainly produced during fermentation?

Carbon dioxide and alcohol are mainly produced during fermentation.

4. Name any two food products made with the help of microorganisms.

Bread and cheese are the two food products made with the help of microorganisms.

5. Which type of microorganism causes polio?

Polio virus causes polio.

6. Is cholera caused by a virus?

No, cholera is caused by bacteria.

7. What are antibodies?

Antibodies are substances that remain in our body, prevent the occurrence of the disease and fight against the disease-causing microorganisms.

8. Who discovered the process of pasteurisation?

Sir Louis Pasteur (1822-1895) discovered the process of pasteurisation.

9. Are all microorganisms harmful?

No, some microorganisms are useful. For example curd and cheese-making bacteria and E. coli, which is used in making medicines.

10. Name any two diseases caused by bacteria.

Cholera and tuberculosis are caused by bacteria.

**V. Answer the following questions in two to three sentences.**

1. Differentiate between aerobic and anaerobic bacteria.

Aerobic bacteria require oxygen for respiration.

Anaerobic bacteria do not need oxygen. They respire in the absence of oxygen.

2. Algae are plant-like while protozoa are animal-like microorganisms. Explain.

Algae are plant-like floating microorganisms. They require sunlight for photosynthesis. Example: Phytoplanktons.

Protozoans are animal-like microorganisms. They depend on other organisms for food. Some protozoans move with the help of pseudopodia while others have cilia or flagella. Example: Paramecium

3. Microscopic algae sustain life on the Earth. How?

Microscopic algae contribute in sustaining life on the Earth. They produce food and release huge amounts of oxygen into the atmosphere.

4. Phytoplanktons live near the surface of water. Why?

Phytoplanktons are plant-like floating microorganisms. Since they require light to photosynthesise, they live near the surface of the waterbodies such as ponds, lakes, rivers and oceans.

5. Why do dry food items such as biscuits not spoil easily?

Microorganisms that spoil food need warm moist conditions to grow. Hence dry food items such as biscuits, if stored in a clean dry container do not spoil easily.

## VI. Answer the following in detail.

1. List three diseases caused by microorganisms. Explain the symptoms of any one disease.

Protozoans cause diseases such as amoebic dysentery, malaria, sleeping sickness.

Symptoms of amoebic dysentery: Frequent loose motions, sometimes with mucus and blood, in some cases vomiting occur.

2. Explain pasteurisation.

Pasteurisation is a technique of preserving food, especially milk. It involves heating milk to a temperature between 72°C and 75°C for a period of 30 seconds and then cooling it immediately. This process kills approximately 99.5% of all microorganisms in the milk. Pasteurised milk can be stored for five to six days in a refrigerator. Pasteurisation is also used for preserving fruit juices, wine and dairy products.

## VII. Write a short note on the following topics.

### 1. Useful soil microorganisms

Rhizobium bacteria that live in the root nodules of leguminous plants help in fixing atmospheric nitrogen. This makes the soil fertile.

Certain soil bacteria decompose dead organic matter thus help in cleaning environment

### 2. Food preservation

Salt, sugar, oil and vinegar are food preservatives that prevent food spoilage. These edible products do not allow microbes to grow and thus preserve food.

Chemicals such as sodium benzoate and sodium metabisulphite are also used to preserve pickles, jams and fruit juices

### 3. Nitrogen cycle

Nitrogen cycle: Remains of plants and animals and animal waste (excreta and urine) contain nitrogen in the form of nitrogenous compounds. When such organic matter mixes with the soil, it decomposes.

The soil fungi and bacteria decompose the organic matter and convert it to **nitrates** and **Nitrites**.

This process is known **as nitrification**.

Nitrates are soluble in water and are absorbed by the roots along with the water. The Rhizobium bacteria found in the roots of nitrogen-fixing legume plants. The hard casing of these nodules

keeps oxygen out of the pockets where Rhizobium bacteria convert **nitrates** and **Nitrites** into ammonia. This is called **Ammonification**.

Plants use Ammonia to make plants protein. When animals eat plants or plants product Ammonia converted into animal protein.

When plants and animals die, decomposer act on them and return ammonia into soil. Some of the ammonia used by plants again and rest is converted into **nitrates** and **Nitrites**. This process is called **Nitrification**

Certain kind of **bacteria** living in the wet soil **convert nitrates into nitrogen gas or nitrous oxide (N<sub>2</sub>O) gas** which is returned to the atmosphere. This process is known as **denitrification**.

**VII. Write two examples of diseases with cause symptom and prevention**

Ans:

**Disease : Malaria**

**Cause :** Protozoa Plasmodium vivax

**Symptoms :** Muscle ache, headache and fever. vomiting, coughing, and yellowing (jaundice) of the skin.

**Prevention :**

- Do not allow water to collect around as mosquitoes lay their eggs in water.
- Introduce fish in ponds. They feed on mosquito larvae and do not let them grow.
- Use mosquito repellent creams to keep mosquitoes away.

**Disease : Amoebic dysentery**

**Cause :** Protozoa Entamoeba histolytica

**Symptoms :** Frequent loose motions, sometimes with mucus and blood, in some cases vomiting occur.

**Prevention :**

- Wash hands with soap and water after using the toilet.
- Wash hands before eating food. • Keep food covered.

## HOTs

### Give Reasons.

1. Bacteria are regarded as our foes and friends.

Ans: Bacteria are regarded as our foes and friends for the following reasons:

Bacteria's are useful to us in many cases like formation of Curd, Cheese, preparing antibiotics, Vitamin B complex tablets .Bacteria also decompose animal and plant waste to produce biogas.

Bacteria's are harmful to us as they caused diseases such as dysentery, tuberculosis (TB), typhoid and cholera

2. Food not stored properly spoils faster in summers than in winters.

Food spoils in all seasons, just a little faster perhaps in summer due to heat and humidity. Food spoiling is caused by the bacterial growth.

3. Pickles do not spoil easily.

Salt, sugar, oil and vinegar are food preservatives that prevent food spoilage. Microorganisms cannot grow in high sugar or salt concentrations. So pickles which are immersed in concentrated salt solution get preserved for a few months.

4. Preservatives are used in jams.

Preservatives are used in jams to prevent them from being spoilt by the action of microbes.

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