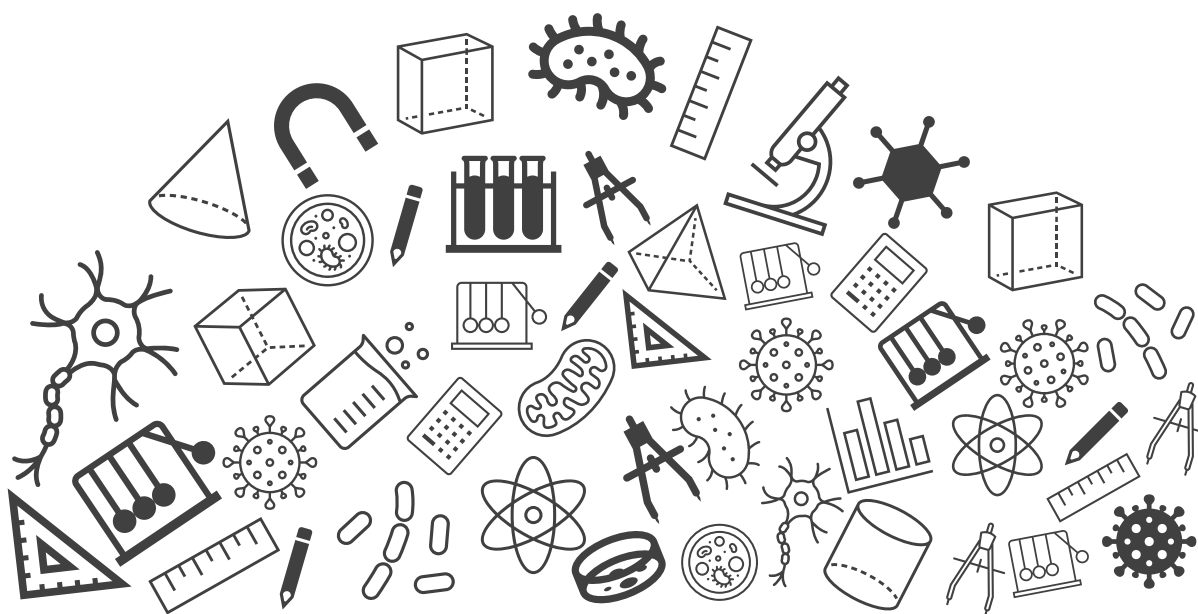




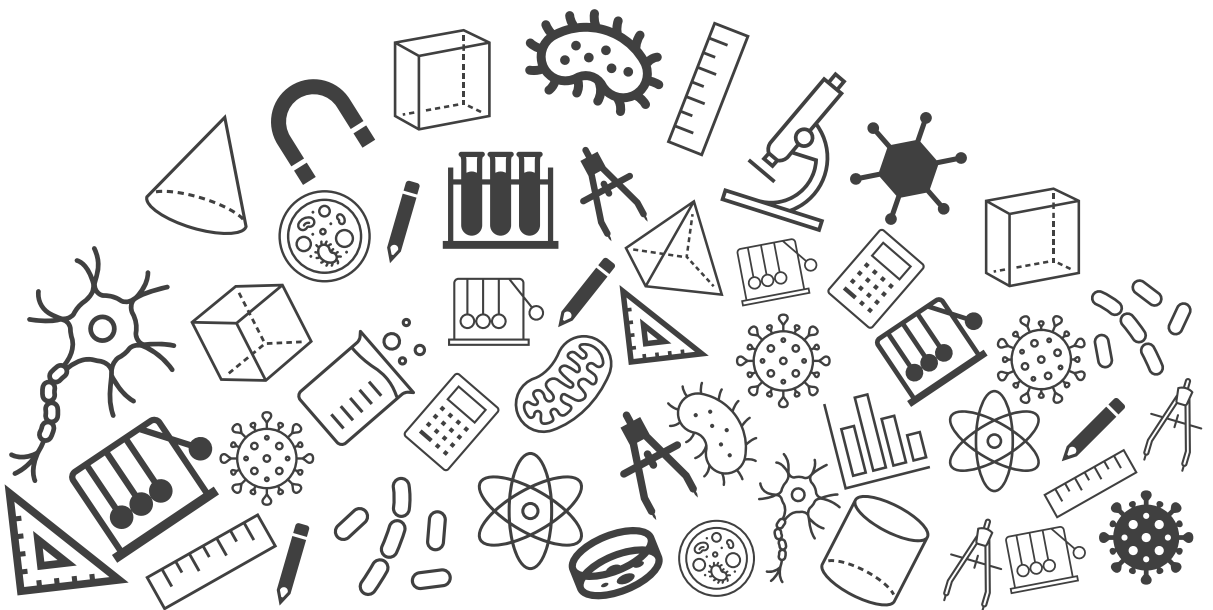
# Grade 08 : Science

## Exam Important Questions





# Microorganisms: Friend and Foe



## Exam Important Questions : Microorganisms: Friend and Foe

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1. What are the major groups of microorganisms? Give one example for each.  
[5 marks]

Solution:

There are five major groups of microorganisms:

1. Bacteria - They are single-celled microorganisms. They can be spiral or rod-shaped. E.g., *Lactobacillus*. [1 mark]
2. Fungi - They are mostly multicellular microbes. E.g., *Rhizopus*. [1 mark]
3. Protozoa - They mainly include organisms such as Amoeba, Plasmodium, etc. They can be unicellular or multicellular. [1 mark]
4. Virus -Viruses are disease-causing microbes that reproduce only inside the host organism. E.g., Chickenpox virus. [1 mark]
5. Algae - They include multicellular, photosynthetic organisms such as *Spirogyra*, *Chlamydomonas*, etc. [1 mark]

2. Write a short note on vaccines and vaccination.  
[2 marks]

Solution:

- Vaccines are dead or weakened microbes which are artificially introduced in the body by either injecting or given orally to increase the immunity. [1 mark]
- This process of introducing the vaccine in the body is called vaccination. [1 mark]

## Exam Important Questions : Microorganisms: Friend and Foe

3. The release of carbon dioxide is the reason behind the doubling of the dough.  
Explain.

[2 marks]

Solution:

- Dough is prepared with the help of flour, water, sugar and yeast. (0.5 marks)
- After the dough is kneaded, the yeast starts feeding on the sugar molecules of the dough.
- It starts breaking down the sugar molecules into alcohol and carbon dioxide. (0.5 marks)
- Thus, when the dough is baked, the carbon dioxide in the bread creates air pockets inside the dough which results in the doubling of the dough. (0.5 marks)
- The alcohol, however, evaporates during the baking process. (0.5 marks)

4. Explain why antibiotics do not work against flu or any infection caused by viruses.

[2 marks]

Solution:

- Antibiotics work by inhibiting cell wall formation or growth machinery in bacteria. (1 mark)
- On the other hand, viruses do not contain cell walls and their growth machinery differs from bacteria. (1 mark)
- So, antibiotics are ineffective against flu or any infection caused by viruses.

5. What is meant by communicable diseases? Name any two communicable diseases.

[2 marks]

Solution:

- Microbial diseases that can spread from an infected person to a healthy person through air, water, food or physical contact are called communicable diseases. (1 mark)
- Cholera and tuberculosis are examples of communicable diseases. (1 mark)

## Exam Important Questions : Microorganisms: Friend and Foe

6. What are vector-borne diseases? Explain the role of vector in disease transmission with an example.

[3 marks]

Solution:

- Vectors are generally some insects or animals that carries disease causing microbe. The diseases which are caused by vectors are called vector-borne diseases. For example: Malaria. (1 mark)
- When a female *Anopheles* mosquito bites an infected person, pathogen enters into the vector's body. (1 mark)
- Now, when the same mosquito bites a healthy person, the pathogen gets released into the bloodstream of healthy person and hence the person gets infected with malaria. (1 mark)

7. Name one disease which spreads through infected food or water.

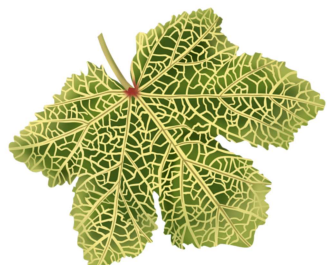
[1 mark]

Solution:

Cholera spreads through infected food or water. (1 mark)

## Exam Important Questions : Microorganisms: Friend and Foe

8. Observe the figure and answer the questions that follows:

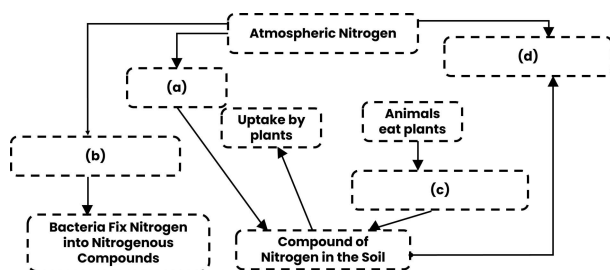


- (a) Write the name of the disease.
  - (b) Name the causative agent of this disease?
  - (c) How does the disease spread from one plant to another?
  - (d) Name any two plant diseases and the microbes that cause them.
- [4 marks]

Solution:

- (a) The disease is yellow vein mosaic of okra. (1 mark)
- (b) Yellow vein mosaic virus is the causative agent.(1 mark)
- (c) The mode of transmission is through insects. (1 mark)
- (d) Citrus canker and rust of wheat are other plant diseases caused by bacteria and fungi respectively.(1 mark)

9. Complete the following cycle given by filling the blanks (a), (b), (c), (d). [2 marks]

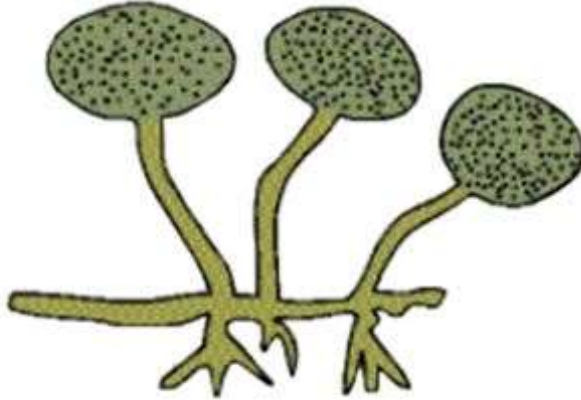


Solution:

- The following cycle can be filled as:
  - (a) Lightning fixes nitrogen (0.5 marks)
  - (b) Nitrogen fixing bacteria and blue green algae fix atmospheric nitrogen. (0.5 marks)
  - (c) Nitrogenous waste from excretion and death and decay of organisms. (0.5 marks)
  - (d) Bacteria turn compounds of nitrogen into gaseous nitrogen. (0.5 marks)

## Exam Important Questions : Microorganisms: Friend and Foe

10. Observe the given below figure and answer the following questions.



- Name the microorganism and the group to which it belongs.
- Name the food item on which the organism grows.
- Does it grow well in dry or in moist conditions?
- Is it safe to eat infected bread?

[4 marks]

Solution:

- Bread mould. It is a fungus. (1 mark)
- Moist and stale bread. (1 mark)
- It grows well in moist conditions. (1 mark)
- No, the fungus spoils the bread by producing poisonous substances. (1 mark)

11. What is pasteurisation ? [2 marks]

- Pasteurisation is the process of sterilisation of milk. (1 mark)
- In this process, milk is heated at high temperature, around 70 °C for 15 to 30 seconds and then it is suddenly chilled at 5 °C and stored. (1 mark)

## Exam Important Questions : Microorganisms: Friend and Foe

12. How are microbes helpful in cleaning the environment? Explain.  
[3 marks]

Solution:

- Microbes ensure that the dead and decaying plants are broken down into simpler organic matter. (1 mark)
- This process in which dead and decaying matter, such as plants and animals are broken down by microbes is known as decomposition and such microbes are called decomposers. (1 mark)
- These decomposers help to keep our environment clean and add nutrients to the soil. (1 mark)

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