

# BIOLOGY

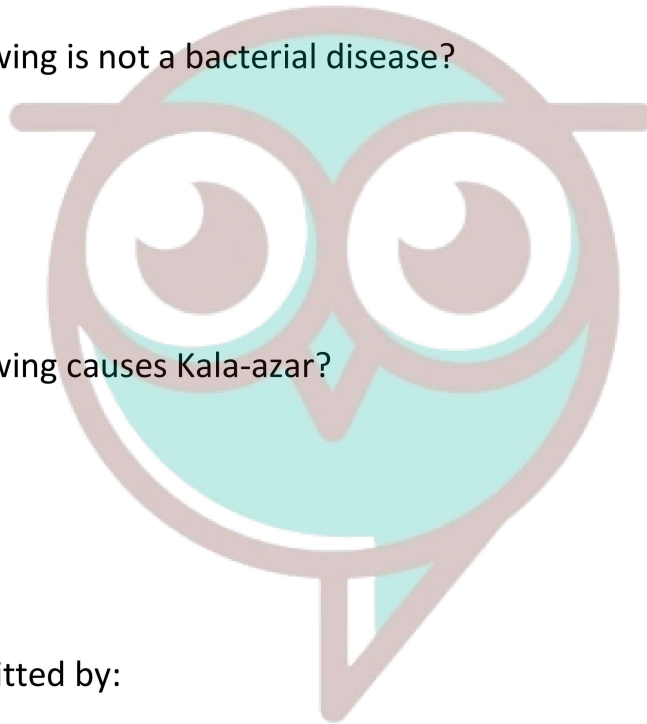
## Chapter 13: Why Do We Fall Ill?



## Important Question

### ➤ Multiple Choice Questions:

1. Which one of the following is not a viral disease?
  - (a) Dengue
  - (b) AIDS
  - (c) Typhoid
  - (d) Influenza
2. Which one of the following is not a bacterial disease?
  - (a) Cholera
  - (b) Tuberculosis
  - (c) Anthrax
  - (d) Influenza
3. Which one of the following causes Kala-azar?
  - (a) Ascaris
  - (b) Trypanosoma
  - (c) Leishmania
  - (d) Bacteria
4. AIDS cannot be transmitted by:
  - (a) sexual contact
  - (b) hugs
  - (c) breastfeeding
  - (d) blood transfusion
5. Which one of the following diseases is not caused by bacteria?
  - (a) Typhoid
  - (b) Anthrax
  - (c) Tuberculosis
  - (d) Malaria
6. Viruses, which causes hepatitis are transmitted through:
  - (a) air
  - (b) water
  - (c) food



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(d) personal contact

7. The name of bacterial disease is

(a) Ringworm

(b) Measles

(c) Typhoid

(d) Malaria

8. T.B. (Tuberculosis) is caused by:

(a) Vibrio Cholerae

(b) Mycobacterium tuberculosis

(c) HIV virus

(d) Salmonella typhi (bacteria)

➤ **Very Short Question:**

1. What are infectious or communicable diseases?

2. What are congenital diseases?

3. Give one local and one general effect of the inflammation process.

4. Name the organism causing the following diseases:

(a) Kala-azar

(b) Sleeping sickness

5. It was diagnosed that a patient has lost the power of fighting any infection.

(i) Name the disease the patient is suffering from.

(ii) Name the pathogen responsible for the disease.

6. What is immunity?

7. The diseases which can be prevented by using vaccines.

8. What are principles of treatment of a disease?

9. How do children in many parts of India get immune to hepatitis-A by the time they are five year old?

10. Name the causative organisms of tuberculosis and cholera.

➤ **Short Questions:**

1. What are the differences between acute and chronic diseases?

2. What is a pandemic disease? Give one example.

3. Mention the symptoms because of which you will visit a doctor and why?

4. Why is DPT called triple antigen?
5. What are the symptoms shown by a person if the
  - (i) lungs get infected?
  - (ii) stomach is infected?
6. "In our country majority of children are already immune to hepatitis A without giving its vaccine to them." Justify this statement giving reasons.
7. List any four factors that must be taken care of by an individual for keeping good health.
8. Why are antibiotics effective against bacteria?

### ➤ Long Questions:

1. Write a note on plant tissues.
2. Show the types of animal tissues using flow chart.
3. What is connective tissue? Explain its types.

### ➤ Assertion Reason Questions:

1. For two statements are given- one labelled Assertion (A) and the other labelled Reason (R). Select the correct answer to these questions from the codes (a), (b), (c) and (d) as given below:
  - a. Both Assertion and Reason are correct, and reason is the correct explanation for assertion.
  - b. Both Assertion and Reason are correct, and Reason is not the correct explanation for Assertion.
  - c. Assertion is true but Reason is false.
  - d. Both Assertion and Reason are false.

**Assertion:** Cell plays vital role in the body.  
**Reason:** Cell is the basic unit of body structure.
2. For two statements are given- one labelled Assertion (A) and the other labelled Reason (R). Select the correct answer to these questions from the codes (a), (b), (c) and (d) as given below:
  - a. Both Assertion and Reason are correct, and reason is the correct explanation for assertion.
  - b. Both Assertion and Reason are correct, and Reason is not the correct explanation for Assertion.
  - c. Assertion is true but Reason is false.
  - d. Both Assertion and Reason are false.

**Assertion:** cell plays vital role in the body.

**Reason:** cell is the basic unit of wall making.

### ➤ Case Study Questions:

1. There are many tissues in the body. These tissues make up physiological systems or organ systems that carry out body functions. Each of the organ systems has specific organs as its part and it has particular functions. So, the digestive system has the stomach and intestines, and helps to digest food taken in from outside the body. The musculoskeletal system, which is made up of bones and muscles, holds the body parts together and helps the body move. When there is a disease, either the functioning of one or more systems of the body will change for the worse. These changes give rise to symptoms and signs of disease. Symptoms of disease are the things we feel as being 'wrong'. Such as headache, cough, loose motions, a wound with pus these are symptoms. These indicate that there may be a disease, but they don't indicate what the disease is. For example, a headache may just stress or very rarely it may mean meningitis, or any one of a dozen different diseases.

The manifestations of disease will be different depending on a number of factors. Some diseases last for only very short periods of time, and these are called acute diseases. We all know from experience that the common cold lasts only a few days. Other ailments can last for a long time, even as much as a lifetime, and are called chronic diseases. An example is the infection causing elephantiasis, which is very common in some parts of India.

**(i) Which of the following is the function of musculoskeletal system?**

- (a) Digest food taken in from outside the body
- (b) Holds the body parts together
- (c) Helps the body move
- (d) Both b & c

**(ii) Which of the following is the function of Digestive system?**

- (a) Digestion of food
- (b) Holds the body parts together
- (c) Helps the body move
- (d) Both b & c

**(iii) Diseases that last for only very short periods of time are termed as:**

- (a) Chronic Diseases
- (b) Symptoms
- (c) Acute Diseases

**(iv) Define Acute Diseases.**

**(v) Define Chronic Diseases.**

2. Acute and chronic diseases have different effects on our health. Any disease that causes poor functioning of some part of the body will affect our health. This is because all functions of the body are necessary for being healthy. But an acute disease, which is over very soon, will not have time to cause major effects on general health, while a chronic disease will do so.

For example, cough and cold, which all of us have from time to time. Most of us get better and become well within a week or so. And there are no lasting effects on our health.

When we get infected with a chronic disease such as tuberculosis of the lungs, then being ill over the years does make us lose weight and feel tired all the time. We are likely to have prolonged general poor health if we have a chronic disease. Chronic diseases have very drastic long-term effects on people's health as compared to acute diseases.

**(i) Which of the following is the example of chronic disease?**

- (a) Cold
- (b) Cough
- (c) Tuberculosis
- (d) All of the above

**(ii) Identify correct statement given below,**

Statement 1 – Chronic diseases have very drastic long-term effects on health.

Statement 2 – Acute diseases does not cause major effects on general health.

Statement 3 – Chronic diseases last for only very short periods of time.

Statement 4 – Acute diseases last for very long periods of time.

- (a) Both 1 & 2
- (b) Only 1
- (c) Both 3 & 4
- (d) All of the above

**(iii) Which of the following is the example of acute disease?**

- (a) Cold & Cough
- (b) Tuberculosis
- (c) Both a & b
- (d) None of the above

**(iv) What is the distinguishing feature of Acute Diseases?**

**(v) What is the distinguishing feature of Chronic Diseases?**

✓ **Answer Key-**

➤ **Multiple Choice Answers:**

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1. (c) Typhoid
2. (d) Influenza
3. (c) Leishmania
4. (b) hugs
5. (d) Malaria
6. (b) water
7. (c) Typhoid
8. (b) Mycobacterium tuberculosis

➤ **Very Short Answers:**

1. Answer: The diseases which are caused by infectious agents are called as infectious diseases as they can spread from one person to another through some medium or by direct contact.  
Example: Pneumonia, common cold, tuberculosis, etc.
2. Answer: The diseases which are present in a person since birth are called congenital diseases.  
Example: colour blindness.
3. Answer: Swelling or pain is a local effect. Fever or headache is a general effect.
4. Answer:  
(a) Kala-azar is caused by Leishmania  
(b) Sleeping sickness is caused by Trypanosoma.
5. Answer:  
(i) AIDS.  
(iii) HIV is the causative organism of AIDS. [HIV-Human immunodeficiency virus]
6. Answer: The ability of the body of a person to fight against the disease causing organisms is called immunity. Name any disease that can be prevented by using vaccines.
7. Answer: The diseases which can be prevented by using vaccines are polio, small pox, diphtheria, tetanus, measles, etc.
8. Answer:
  - The principles of treatment are:
  - reducing the effects of the disease.
  - to kill the cause of the disease.
9. Answer: The children become immune to hepatitis A virus as they are exposed to hepatitis A virus present in the water they drink.

10. Answer:

- Tuberculosis: Caused by bacterium called as Mycobacterium tuberculosis.
- Cholera is caused by a bacterium called as Vibrio cholera

### ➤ Short Answer:

1. Answer:

Acute disease: The disease which lasts for only very short periods of time is called acute disease.

They get over soon and do not get much time to affect the health more adversely.

Example: Common cold

Chronic disease: The disease which can last for a long time, even as much as a lifetime is called chronic disease.

They have a long-term effect on the health of a person. Example: Elephantiasis

2. Answer: The disease which affects the health of human population all over the world is called a pandemic disease. For example, AIDS.

3. Answer: High fever, headache, tiredness, loose motion, cough and cold, loss of appetite and body weight are some of the symptoms for which we will visit a doctor because the doctor would be able to ascertain the disease caused on the basis of the symptoms produced and give medication accordingly.

4. Answer: DPT is called as triple antigen as it affects three antigens to produce the antibodies against them. The diseases are: Diphtheria, Pertussis and Tetanus.

5. Answer:

(i) Cough, breathlessness, tiredness are the symptoms produced if the lungs of a person get affected by a disease.

(ii) Loose motion, vomiting and stomach-ache are the symptoms produced when the stomach of a person gets affected by a disease.

6. Answer: Majority of the children are already exposed to the hepatitis A virus by the time they are five years old because the water which the children generally drink contains the hepatitis A virus. The immune system thus helps to develop immunity against the virus.

7. Answer: The four factors which must be taken care by an individual for keeping good health are:

Proper nourishing balanced diet

Clean and hygienic environment

Good social environment

Proper sanitation and cleanliness



8. Answer: Antibiotics block the biochemical pathways of the bacteria which inhibit their growth and kill them. For example: Penicillin blocks the pathway involved in the synthesis of cell wall which protects the bacteria. This inhibits their growth and kills them.

### ➤ Long Answer:

1. Answer:

(a) 'Health' is defined as a state of physical, emotional, mental and social well being of a person.

(b) The four factors whose non availability or absence can cause disease are:

(i) Proper nourishing food: If the person does not get proper nourishing food and a balanced diet, then disease may affect the person.

(ii) Proper hygienic conditions and cleanliness: If the surroundings are not hygienic and the public cleanliness is ignored in a society, then the individuals living there become more prone to diseases.

(iii) Good social conditions: The society in which the person lives should cater towards a healthy mind set of the members of the society. A bad social environment makes the individuals of the society develop an unhealthy attitude.

(iv) Good economic conditions: Poverty is a major cause of diseases and poor economic conditions increase the chances of spread of diseases in the society due to inadequate food and unhygienic conditions.

2. Answer:

(a) AIDS can spread by four ways: Sexual contact, Transfusion of AIDS infected blood, use of infected syringe and from an infected mother to her baby during pregnancy or through breast feeding.

(b) Antibiotics block the biochemical pathways of the microorganism in order to inhibit their growth and kill them. But, the viruses do not employ such biochemical pathways of their own. They utilize the host machinery to multiply themselves. So, antibiotics cannot be used for the treatment of the viral diseases like AIDS.

3. Answer:

(a) Mode of transmission of Jaundice: Contaminated water Organ affected by Jaundice: Liver

(b) Access to pure drinking water can prevent jaundice.

(c) Most of the children of India are already exposed to the hepatitis A virus through the drinking water and their immune system helps to develop immunity against the disease by the time they are five years old. So, it is not necessary to give them the hepatitis A vaccine.

### ➤ Assertion Reason Answer:

1. (b) Both Assertion and Reason are correct, and reason is not the correct explanation for assertion.
2. (c) Assertion is true but Reason is false.

### ➤ Case Study Answers:

1.

(i) (d) Both b & c

(ii) (a) Digestion of food

(iii) (c) Acute Diseases

(iv) Diseases that last for only very short periods of time are called as Acute Diseases

(v) Diseases that last for long period of time, even as much as a lifetime are called as Chronic Diseases.

2.

(i) (c) Tuberculosis

(ii) (a) Both 1 & 2

(iii) (a) Cold & Cough

(iv) Distinguishing feature of Acute Diseases :

- Acute diseases last for very short period of time.
- Acute diseases does not cause major effects on general health.
- Example – Cold and cough.

(v) Distinguishing feature of Chronic Diseases :

- Chronic diseases last for very long periods of time.
- Chronic diseases does cause major effects on health.
- Example – Tuberculosis.