

CBSE Test Paper 04
Ch-8 Human Health and Disease

1. The disease causing microorganisms are called
 - a. Fungi
 - b. Microbes
 - c. Pathogen
 - d. Allotropes
2. Choose the wrong statement regarding AIDS
 - a. Viral RNA genome is converted into DNA copy by reverse transcriptase
 - b. HIV selectively infects and kills B-lymphocytes
 - c. Retroviruses have RNA genomes that replicate via DNA intermediate
 - d. AIDS is an immunodeficiency disease
3. Retrovirus is the group of virus that have
 - a. DNA and RNA both are genetic material
 - b. Protein is the genetic material
 - c. RNA as genetic material
 - d. DNA is as genetic material
4. Proliferation of cancer cells is unlimited because of
 - a. Deficiency of steroids
 - b. Differing surface protein
 - c. Differing cholesterol level
 - d. Aberrant chromosomal complement
5. Which of the following diseases is due to an allergic reaction?
 - a. Enteric fever
 - b. Hay fever
 - c. Goiter
 - d. Skin cancer
6. Name the type of cells that produce antibodies.
7. High fever, loss of appetite, stomach pain and constipation are some of the symptoms seen in a patient. How would the doctor confirm that the patient is suffering from typhoid and not amoebiasis?

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8. Some allergens trigger sneezing and wheezing in human beings. What causes this type of response by the body?
 9. Why *E. histolytica* does not have contractile vacuole?
 10. It was diagnosed by a specialist that the immune system of the body of a patient has been suppressed. Name the disease the patient is suffering from and its causative agent.
 11. What are interferons?
 12. Name the type of cells the AIDS virus enters into after getting in the human body.
 13. Differentiate and give example of : Innate and acquired immunity
 14. A thalassemic child needed repeated blood transfusion got infected by HIV:
 - i. Use a rough diagrammatic sketch and arrows to show how the virus increased in number.
 - ii. Why did the increased number of the HIV virus deteriorate the child's immunity?
 - iii. Which diagnostic test showed that the infective virus was HIV?
 15. Mention the name of causal organism, symptoms and the mode of transmission of the disease Amoebiasis.

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Answer

1. c. Pathogen, **Explanation:** A number of bacteria, fungi, virus etc. cause disease in human beings. These disease causing microbes are called pathogens.
2. b. HIV selectively infects and kills B-lymphocytes, **Explanation:** AIDS is caused by human immune virus (HIV). HIV infects and kills B-lymphocytes. In this disease viral RNA genome is converted into DNA copy by reverse transcriptase.
3. c. RNA as genetic material, **Explanation:** Retrovirus is the group of virus that has RNA as genetic materials. Human immune deficiency virus (HIV) that causes Acquired Immuno Deficiency Syndrome (AIDS) is an example of retrovirus.
4. b. Differing surface protein, **Explanation:** Uncontrolled multiplication of cancerous cells is due to absence of surface protein essential for controlling cell division.
5. b. Hay fever, **Explanation:** Hay fever (allergic rhinitis) is a common allergic condition.
Symptoms of hay fever mimic those of chronic colds and include stuffy or runny nose, itchy and watering eyes, and sneezing.
The best way to treat an allergy condition is to identify the allergic trigger and avoid it.
6. A lymphocyte is a type of white blood cell that is part of the immune system. There are two main types of lymphocytes: B cells and T cells. The B cells produce antibodies that are used to attack invading bacteria, viruses, and toxins.
7. It can be confirmed by Widal test.
8. An allergic reaction occurs when a person develops “allergic” antibodies, called IgE, which are specific for an allergen. The IgE antibodies bind tightly to allergic cells, called mast cells or basophils, in the skin, airways, gastrointestinal tract and around blood vessels. The allergic cells get activated when the bound IgE recognizes an allergen, and these cells then release histamine and serotonin chemicals that can cause hives, runny nose, sneezing, wheezing and itching.
9. It is a endoparasite, therefore, does not require osmoregulation.

10. Disease - AIDS (Acquired Immuno Deficiency Syndrome)

Causative agent - HIV (Human Immuno Deficiency Virus)

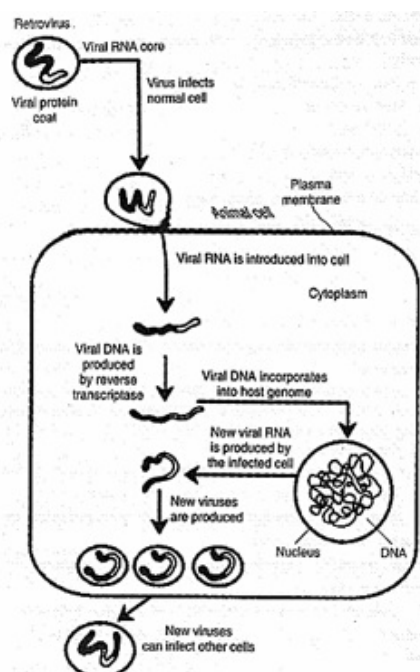
11. Interferons (IFNs) are a group of signaling proteins made and released by host cells in response to the presence of several pathogens, such as viruses, bacteria, parasites, and also tumor cells. They provide resistance to non-infected cells from further viral infection.

12. HIV attacks macrophages first when it gains entry into a human body. After gaining entry into the body of the person, the virus enters into macrophages, where RNA genome of the virus replicates to form viral DNA with the help of the enzyme reverse transcriptase. The macrophages continue to produce Virus particles, which enter the T-lymphocytes, replicate and form progeny virus and cause immunodeficiency.

13.

Innate Immunity	Acquired Immunity
Non-specific	Specific
Is present from birth	Is acquired in response to a specific pathogen
Involves different types of barriers	Involves memory of antibody
Example: Skin acts like a barrier	Example: Antibody response after vaccination

14. i.



ii. The virus attacked and reduced the number of helper T-cells, hence the immunity of the child deteriorated.

iii. Enzyme-linked immunosorbent assay.

15. - The causal organism is *Entamoeba histolytica*.

- Symptoms - Abdominal pain and cramps

- Stool with blood and mucous

- Mode of transmission : the tetranucleate cysts of the parasite, transmitted through contaminated food and water.