

1. NCERT INTEXT QUESTIONS

1. State any two conditions essential for good health.

Ans :

Two conditions essential for good health are :

- (i) State of physical, mental and social well-being.
- (ii) Healthy environment.

2. State any two conditions essential for being free of disease.

Ans :

The two conditions essential for being free of disease are :

- (1) Personal hygiene.
- (2) Clean environment.

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3. Are the answers to the above questions necessarily the same or different? Why?

Ans :

The answer to the above questions are not same because a person may be free of disease but it is not necessary that his mental, social or economical health may be good.

4. List any three reasons why you would think that you are sick and ought to see a doctor. If only one of these symptoms were present, would you still go to the doctor? Why or why not?

Ans :

There are three reasons to think that he is sick are (1) headache, (2) cold and cough, (3) loose-motions.

This indicates that there may be a disease but does not indicate the name of disease. So, one would visit the doctor for the diagnosis and treatment.

Even in case of single symptom one needs to go to the doctor to get proper treatment.

5. In which of the following case do you think the long-term effects on your health are likely to be most unpleasant?

- a. If you get jaundice
- b. If you get lice
- c. If you get acne

Ans :

Lice and acne are acute problems of our health which can be cured in short duration. But jaundice is the disease that can have adverse effect on our health as it affects the liver. This disease is a chronic one.

6. Why are we normally advised to take bland and nourishing food when we are sick?

Ans :

We are advised to take bland and nourishing food when we are sick because our body needs energy to release cells to overcome the infection, the wear and tear of body organ. The nourishing food provides nutrients to our body that will further provide energy and make new cells. No spices in the food makes its digestion process faster, does not release acids in the body that can interfere in the treatment and cure.

7. What are the different means by which infectious diseases are spread?

Ans :

The different means by which infectious diseases spread are :

- (1) **Air** : Common cold, influenza, tuberculosis, etc. diseases are air borne diseases, which can spread by little droplets thrown by sneezing or cough in air.
- (2) **Food and water** : Contaminated food/water that contains bacteria, cause diseases like cholera, hepatitis.
- (3) **Physical contact** : Many diseases spread by contact of infected person with the healthy person. Example : Fungal infections, skin diseases, scabies, etc.
- (4) **Sexual contact** : Many diseases can be transmitted through sexual contacts. Example : Syphilis, AIDS.
- (5) **Vectors** : The organism that spreads a disease from a patient to the host, is called vector. Example : Mosquitoes are vectors that carry pathogens like protozoa.

8. What precautions can you take in your school to reduce the incidence of infectious diseases?

Ans :

The precautions that one can take in school to reduce the incidence of infectious diseases are :

- (a) Using handkerchief while coughing and sneezing.
- (b) Washing hands before eating.
- (c) Staying at home during infectious diseases.
- (d) Clean school surroundings and toilets.

9. What is immunization?

Ans :

When the body attains immunity against any disease by vaccination, is called immunization.

10. What are the immunization programmes available at the nearest health centre in your locality? Which of these diseases are the major health problems in your area?

Ans :

Immunization programmes :

- (1) Vaccination against smallpox.
- (2) BCG vaccination against tuberculosis.
- (3) Polio vaccination against polio.
- (4) Vaccination against chicken pox.
- (5) Vaccination against hepatitis.
- (6) DPT vaccination against tetanus, diphtheria, cough

Chicken pox, Tuberculosis and Tetanus are the major health problems.

2. NCERT EXERCISE QUESTIONS

1. How many times did you fall ill in the last one year? What were the illnesses?
- (a) Think of one change you can make in your habits in order to avoid any of the above illnesses.
 - (b) Think of one change you would wish for in your surroundings in order to avoid any of most the above illness.

Ans :

I suffered from cough and cold twice and malaria once.

- (a) **Change in Habits :** I should avoid the company of persons suffering from cold and cough and not eating uncovered food. I will wear clothes suitable to protect from mosquito bites.
 - (b) **Change in Surroundings :**
 - (i) I will try to improve sanitary conditions in the surroundings.
 - (ii) I will try to get drains cleaned regularly and kept covered not allowing water to collect near the houses to avoid mosquito breeding.
2. A doctor/nurse/health worker is exposed to more sick people than others in the community. Find out how she/he avoids getting sick herself/ himself?

Ans :

A doctor/nurse/health worker when exposed to sick people :

- a. By keeping their nose and mouth covered.
 - b. By taking care of their hygiene.
 - c. Wash hands with soap before drinking water or eating food.
 - d. Use mask, gloves, etc. to avoid the direct contact with the person suffering from infectious diseases.
3. Conduct a survey in your neighbourhood to find out what the three most common diseases are. Suggest three steps that could be taken by bring down the incidence of these diseases.

Ans :

Common diseases are dysentery, malaria, viral and fever.

Prevention :

- a. Proper diet and avoid too cold food.

- b. Clean surrounding.
- c. Safe drinking water.
- d. Personal hygiene.
- e. Stop stagnation of water.

4. A baby is not able to tell his/her caretakers that she/he is sick. What would help us to find out?
- (a) That the baby is sick?
 - (b) What is the sickness?

Ans :

- (a) The symptoms like body temperature, fever, cough, cold, loose-motions, non-stop crying improper or no food intake, etc. would help us to find that the baby is sick.
- (b) The symptoms could help us to find out the sickness of the body.

5. Under which of the following conditions is a person most likely to fall sick?
- (a) When she is recovering from malaria.
 - (b) When she has recovered from malaria and taking care of someone suffering from chickenpox.
 - (c) When she is on a four-day fast after recovering from malaria and is taking care of someone suffering from chicken-pox.

Why?

Ans :

- (c) When she is on a four-day fast after recovering from malaria and is taking care of someone suffering from chicken-pox.

The functioning of the immune system will not be good in lack of proper and sufficient food.

6. Under which of following conditions are you most likely to fall sick?
- (a) When you are taking examinations.
 - (b) When you have travelled by bus and train for two days.
 - (c) When your friend is suffering from measles.

Why?

Ans :

- (c) When your friend is suffering from measles, as it is an infectious disease.

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3. NCERT EXEMPLAR

Objective Type Questions

1. Which one of the following is not a viral disease?
- | | |
|-------------|---------------|
| (a) Dengue | (b) AIDS |
| (c) Typhoid | (d) Influenza |

Ans : (c) Typhoid

2. Which one of the following is not a bacterial disease?
- | | |
|-------------|------------------|
| (a) Cholera | (b) Tuberculosis |
| (c) Anthrax | (d) Influenza |

Ans : (d) Influenza

3. Which one of the following disease is not transmitted by mosquito?

- (a) Brain fever (b) Malaria
(c) Typhoid (d) Dengue

Ans : (c) Typhoid

4. Which one of the following disease is caused by bacteria?

- (a) Typhoid (b) Anthrax
(c) Tuberculosis (d) Malaria

Ans : (d) Malaria

5. Which one of the following diseases is caused by protozoans?

- (a) Malaria (b) Influenza
(c) AIDS (d) Cholera

Ans : (a) Malaria

6. Which one of the following has a long term effect on the health of an individual?

- (a) Common cold (b) Chickenpox
(c) Chewing tobacco (d) Stress

Ans : (c) Chewing tobacco

7. Which of the following can make you ill if you come in contact with an infected person?

- (a) High blood pressure (b) Genetic abnormalities
(c) Sneezing (d) Blood cancer

Ans : (c) Sneezing

8. AIDS cannot be transmitted by :

- (a) Sexual contact (b) Hugs
(c) Breast feeding (d) Blood transfusion

Ans : (b) Hugs

9. Making anti-viral drugs is more difficult than making anti-bacterial medicines because :

- (a) Viruses make use of host machinery
(b) Viruses are on the border line of living and non-living
(c) Viruses have very few biochemical mechanisms of their own
(d) Viruses have a protein coat

Ans : (c) Viruses have very few biochemical mechanisms of their own

10. Which one of the following causes kala-azar?

- (a) Ascaris (b) Trypanosoma
(c) Leishmania (d) Bacteria

Ans : (c) Leishmania

11. If you live in a overcrowded and poorly ventilated house, it is possible that you may suffer from which of the following diseases?

- (a) Cancer (b) AIDS
(c) Air borne diseases (d) Cholera

Ans : (c) Air borne diseases

12. Which disease is not transmitted by mosquitoes?

- (a) Dengue
(b) Malaria
(c) Brain fever or encephalitis
(d) Pneumonia

Ans : (d) Pneumonia

13. Which one of the following is not important for individual health?

- (a) Living in clean space
(b) Good economic condition
(c) Social equality and harmony
(d) Living in a large and well furnished house

Ans : (d) Living in a large and well furnished house

14. Choose the wrong statement :

- (a) High blood pressure is caused by excessive weight and lack of exercise
(b) Cancers can be caused by genetic abnormalities
(c) Peptic ulcers are caused by eating acidic food
(d) Acne is not caused by staphylococci

Ans : (c) Peptic ulcers are caused by eating acidic food

15. We should not allow mosquitoes to breed in our surroundings because they :

- (a) multiply very fast and cause pollution
(b) are vectors for many diseases
(c) bite and cause skin diseases
(d) are not important insects

Ans : (b) are vectors for many diseases

16. You are aware of Polio Eradication Programme in your city. Children are vaccinated because vaccination :

- (a) kills the polio causing microorganisms
(b) prevents the entry of polio causing organism
(c) creates immunity in the body
(d) all of the above

Ans : (c) creates immunity in the body

17. Viruses, which cause hepatitis, are transmitted through :

- (a) air (b) water
(c) food (d) personal contact

Ans : (b) water

18. Vectors can be defined as :

- (a) Animals carry the infecting agents from sick person to another healthy person
(b) Microorganisms which cause many diseases
(c) Infected person
(d) Diseased plants

Ans : (a) Animals carry the infecting agents from sick person to another healthy person

Short Answer Questions

19. Give two examples for each of the following :

- (i) Acute diseases
- (ii) Chronic diseases
- (iii) Infectious diseases
- (iv) Non-infectious diseases

Ans :

- (i) Common cold and Typhoid
- (ii) Diabetes and Cancer
- (iii) TB and Chickenpox
- (iv) Epilepsy and Goiter

20. Name two diseases caused by Protozoa. What are their causal organisms?

Ans :

1. Malaria - Plasmodium
2. Kala-azar - Leishmania

21. Which bacterium causes peptic ulcers? Who discovered the peptic ulcer's pathogen for the first time?

Ans :

1. Helicobacter pylori
2. Marshall and Warren

22. What is an antibiotic? Give two examples.

Ans :

Antibiotic is a chemical substance that kills bacteria, secreted by microorganisms which can kill the pathogens. Example : Penicillin and Streptomycin.

23. Fill in the blanks :

- (a) Pneumonia is an example of _____ disease.
- (b) Many skin diseases are caused by _____
- (c) Antibiotics commonly block biochemical pathways important for the growth of _____
- (d) Living organisms carrying the infecting agents from one person to another are called _____

Ans :

- (a) Communicable
- (b) Fungi
- (c) Bacteria
- (d) Vectors

24. Name the target organs for the following diseases :

- (a) Hepatitis targets
- (b) Fits or unconsciousness targets
- (c) Pneumonia targets
- (d) Fungal disease targets

Ans :

- (a) liver, (b) brain, (c) lungs, (d) skin.

25. Who discovered 'vaccine' for the first time? Name two diseases which can be prevented by using vaccines.

Ans :

Edward Jenner discovered vaccine. Polio and Diphtheria are two diseases which can be prevented by using vaccines.

26. Fill in the blanks :

- (a) _____ disease continues for many days and _____ causes on body.
- (b) _____ disease continues for a few days and causes no long term effect on body.
- (c) _____ is defined as physical, mental and social well-being and comfort.
- (d) Common cold is _____ disease.
- (e) Many skin diseases are caused by _____

Ans :

- (a) Chronic, long term effect
- (b) Acute
- (c) Health
- (d) communicable (infectious)
- (e) fungi

27. Classify the following diseases as infectious or non-infectious.

- | | |
|-------------------|-------------------------|
| (a) AIDS | (b) Tuberculosis |
| (c) Cholera | (d) High blood pressure |
| (e) Heart disease | (f) Pneumonia |
| (g) Cancer | |

Ans :

- | | |
|--------------------|--------------------|
| (a) Infectious | (b) Infectious |
| (c) Infectious | (d) Non-infectious |
| (e) Non-infectious | (f) Infectious |
| (g) Non-infectious | |

28. Name any two groups of microorganisms from which antibiotics could be extracted.

Ans :

Two groups of microorganisms from which antibiotics could be extracted are Bacteria and Fungi.

29. Name any three diseases transmitted through vectors.

Ans :

Three diseases transmitted through vectors are Malaria, Typhoid and Dengue.

Long Answer Questions

30. Explain giving reasons :

- (I) Balanced diet is necessary for maintaining healthy body.
- (II) Health of an organism depends upon the surrounding environmental conditions.
- (III) Our surrounding area should be free of stagnant water.
- (IV) Social harmony and good economic conditions are necessary for good health.

Ans :

- (I) Our body is made up of tiny cells which are made up of variety of organic and inorganic substances. A diet is said to be a balanced diet when it gives our body proper nutrition required to function properly. It provides all the necessary raw materials such as carbohydrates, proteins, fats, minerals, and

vitamins which are essential for proper functioning of all the body system.

- (II) Good environmental conditions help us to prevent diseases, increase the life span and improve health standards. This implies that the surrounding environmental conditions also necessary factor for a healthy individual. As in a social environment, it is very important that the following points are maintained to keep the surrounding healthy :
- (i) Proper removal and disposal of garbage.
 - (ii) Proper disposal of sewage.
 - (iii) Drinking water should be pure.
 - (iv) Timely pest control to control communicable diseases.
- (III) Not flowing and often foul-smelling water is known as stagnant water. This is a major environmental hazard as it can become a breeding ground for the mosquitoes that transmit various infectious water borne diseases. So, it is required to keep our surrounding area free from stagnant water.
- (IV) Social harmony and good economic conditions are also the necessary elements for good health. Good economic conditions clearly mention that it is important for an individual to fulfill his basic needs through his own income to stay healthy. Proper earning helps in providing adequate and complete balanced diet, clean clothes and hygienic conditions. Good social environment is important factor in maintaining good health. If people mistreat each other, they could be mentally ill and they cannot lead a healthy life.

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- 31.** What is a disease? How many types of diseases have you studied? Give examples.

Ans :

The literal meaning of the term 'disease' is disturbed ease or being uncomfortable. Hence, disease can be defined as the condition when any physical change has occurred due to the discomfort or impairment of body. Disease can be further categorized as :

- (i) **Acute** : short term diseases. Example : Typhoid.
- (ii) **Chronic** : long term diseases. Example : Asthma.
- (iii) **Congenital** : Physiological abnormalities by birth. Example : Colour blindness.
 - (a) **Acquired** : Disease that is not present at the time of birth but developed after birth. Example : AIDS
 - (b) **Infectious** : Communicable diseases caused by any parasitic organism. Example : Tuberculosis.
 - (c) **Non-infectious** : Non-communicable diseases can be genetic or due to malfunctioning of internal body organ without any infection. Example : Cancer.

- 32.** What do you mean by disease symptoms? Explain giving two examples.

Ans :

Internal or external evidences which determine the presence of disease is called symptoms. This is an

indication which appears when the functioning of system of the body is affected due to the change. The most common symptoms observed in various diseases are :

- (1) Fever (2) Diarrhoea (3) Fatigue (4) Body ache
- (5) Severe headache/nausea (6) Cold and cough

Few examples are as follows :

- (i) Lesions on the skin can be seen when an individual is infected with chickenpox.
- (ii) Swelling of liver and yellowing of eyes can be observed in jaundice.
- (iii) Cough is the most common symptom for lung infection.
- (iv) In case cough is sustained for long term in tuberculosis.

- 33.** Why is immune system essential for our health?

Ans :

The defence mechanism present in our body which is responsible for fighting and destroying infecting microbes is known as immune system. Immune system is not only responsible for defending against the foreign extrinsic particles but keep our body safe too. Following are few important properties discussed :

- (i) Immune system is a defence mechanism which fight against pathogenic microbes.
- (ii) This system plays the main role in distinguishing the acquired and inborn diseases of a body.
- (iii) Having specialized cell to kill infecting microbes and keep our body healthy.
- (iv) Vaccine also helps in acquiring immunity.
- (v) Instant actions against highly active molecules like sneezing (dust particle), coughing (presence of smoke) are some common reactions observed in our daily life.

- 34.** What precautions will you take to justify "prevention is better than cure".

Ans :

Prevention is better than cure can have the following precious precautionary steps :

- (1) Maintenance of proper sanitation.
- (2) Hygienic environment.
- (3) Removal of pathogenic vectors.
- (4) Consumption of sufficient balanced diet.
- (5) Regulating the interaction among the population in between the diseased patient (communicable/infectious) and a normal individual.
- (6) Educating about the various diseases, cause, symptoms and prevention.
- (7) Sharing of knowledge of proper medication, suitable tests, and treatment standard.
- (8) Vaccination for proper immunization.

- 35.** Why do some children fall ill more frequently than others living in the same locality?

Ans :

Some children fall ill more frequently than others living in the same locality due to poor immune system. Possible reasons for poor immune system :

- (1) Unavailability of balanced diet
- (2) Unhygienic conditions at home

- (3) Improper sanitation
- (4) Poor food consumption
- (5) Using contaminated water

36. Why are antibiotics not effective for viral disease?

Ans :

The term antibiotics refers to anti = against and biotic = bacteria. Antibiotics are not effective for viral disease because viruses are very simple that they use their host cells to perform their activities for them. The principle behind working action of antibiotic involves the blockage of various biochemical pathways of microorganisms and damaging the cell wall which leads to killing of cells.

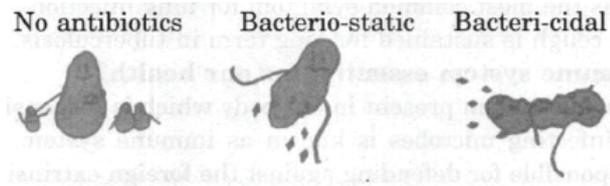


Figure: No effect of antibiotics on viral disease

Viruses have property to use host cell for their own life processes as they can operate only few biochemical cycles by themselves. Whereas bacteria are capable of performing all the different life processes without the help of host cell. This is why an antibiotic is unable to kill viruses specifically than that of bacteria.

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37. Becoming exposed to or infected with an infectious microbe does not necessarily mean developing noticeable disease. Explain.

Ans :

Our body encounters many infectious pathogens. Immune system of the body fights strongly against the pathogen through various immune cells, during this infection. Such cells might be capable of completely diminishing the pathogens from the body or could also be incompetent further developing into a disease. Therefore, the development of a disease in individuals varies in reference to even same pathogenic exposure.

38. Give any four factors necessary for a healthy person.

Ans :

The essential factors which are necessary for a healthy individual are :

(a) **Healthy surrounding :**

- (1) Good drainage and sanitation system
- (2) Potable water supply
- (3) Hygienic residence
- (4) Vendor free environment.

(b) **Healthy economic conditions :**

- (1) Balanced diet
- (2) Proper medical facility
- (3) Timely vaccination

(c) **Healthy social harmony :**

- (1) Awareness in society
- (2) Healthy social environment
- (3) Green society clean society

(d) **Immunisation against such diseases.**

39. Why is AIDS considered to be a 'Syndrome' and not a disease?

Ans :

A collection of signs and symptoms is known as syndrome. It is known to appear frequently but without a known cause. However, a disease can be stated as the condition which can harm the bodily functions in a prolonged state of syndrome. The development of HIV virus in the body transferred through either sexual mode or by blood transfusion is responsible for AIDS. It spreads into the lymph nodes damaging the immune system of the individual. This causes the weakening of body's barrier system and attracting several infections to encounter at once; leading to even a small gut infection to turn into severe diarrhoea with blood loss. The effect of disease becomes very severe and complex, at times killing the person suffering from AIDS. Hence, there is no specific disease symptom for AIDS but it results in a complex disease and symptoms. Therefore, it is known as syndrome.

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Science IX

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