

Assignments in Science Class IX (Term II)

13

Why Do We Fall Ill?

IMPORTANT NOTES

1. A **disease** is the malfunctioning of body organs due to one reason or the other.
2. The term disease literally means “without ease” (uneasiness).
3. Diseases are broadly grouped into two types—**communicable** or **infectious diseases** and **non-communicable** or **non-infectious diseases**.
4. Communicable diseases are passed on from one person to another through air, water, food, physical contact and insects.
5. Communicable diseases are caused by micro-organisms (bacteria, viruses, fungi, protozoa, etc.).
6. Examples of communicable diseases are tuberculosis, typhoid, jaundice, malaria, amoebiasis, etc.
7. Non-communicable diseases are those which cannot spread from person to person, i.e., these diseases remain confined to the diseased person.
8. These diseases are not due to any external infection.
9. Examples of non-communicable diseases are diabetes, arthritis, cancer, marasmus, haemophilia, etc.
10. Diseases caused by viruses are mumps, AIDS, influenza, measles, chicken pox, rabies, etc.
11. Diseases caused by bacteria are cholera, leprosy, tetanus, tuberculosis, syphilis, etc.
12. Diseases caused by fungal infection are ringworm, athlete's foot.
13. Malaria and amoebiasis are protozoan diseases.
14. Biological agents causing diseases are called **pathogens**.
15. The study of the causes of diseases is called **etiology**.
16. Diseases can be transmitted to the healthy person in two ways – **direct transmission** and **indirect transmission**.
17. Direct transmission occurs through contact with infected person, droplet infection, contact with soil, animal bites and through placenta.
18. Indirect transmission occurs through intermediate agents like carriers or vectors, through agents like ice, water, air, through uncleaned hands and fingers.
19. **Carriers** are organisms which harbour disease-causing germs without showing any signs of the disease themselves, but have the ability to infect other individuals.
20. Carriers of specific germs are called **vectors**, such as *Anopheles* is the vector of malarial germ *Plasmodium*.
21. **Cholera** is an acute infectious disease of gastrointestinal tract caused by the bacterium *Vibrio cholerae*.
22. **Typhoid** is an acute and most common communicable disease in India caused by a bacterium *Salmonella typhi*.
23. **Tuberculosis**, commonly called TB is caused by the bacterium *Mycobacterium tuberculosis*.
24. **BCG** (Bacillus Calmette Guerin) vaccine is made from a weakened tuberculosis bacillus bacterium.
25. **AIDS** (Acquired Immune Deficiency Syndrome) is a fatal disease in which body's immune system breaks down.
26. **Hepatitis** is also a serious communicable disease having types A, B, C, D, E and G.
27. **Deficiency diseases** are of three types – Protein Energy Malnutrition (PEM), mineral deficiency diseases and vitamin deficiency diseases.
28. Two common forms of PEM are **Kwashiorkor** and **Marasmus**.
29. Mineral deficiency diseases are **anaemia** (iron deficiency), **goitre** (iodine deficiency), etc.
30. Vitamin deficiency diseases are **xerophthalmia**, **rickets**, **beri-beri**, **pellagra**, **scurvy**, etc.

ASSIGNMENTS FOR SUMMATIVE ASSESSMENT

I. VERY SHORT ANSWER QUESTIONS

(1 Marks)

OTHER IMPORTANT QUESTIONS

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| <ol style="list-style-type: none"> 1. What is disease? 2. Who demonstrated the presence of bacteria in air? 3. How are communicable diseases transmitted? 4. Name four bacterial diseases. 5. What are viral diseases? 6. Name two protozoan diseases. 7. Write the names of some non-communicable diseases. 8. What are pathogens? 9. Name some diseases which are caused by droplet infection. 10. What are vectors? | <ol style="list-style-type: none"> 11. Name one air-borne disease. 12. What is flu? 13. Why does the AIDS patient become susceptible to cold? 14. What is HIV? 15. What is jaundice? 16. What are the hosts of malarial parasite? 17. Which age group is susceptible to marasmus? 18. Which hormone production is related to iodine? 19. Which type of food we should take when we are sick? 20. What is pellagra? |
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II. SHORT ANSWER QUESTIONS - I

(2 Marks)

PREVIOUS YEARS' QUESTIONS

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| <ol style="list-style-type: none"> 1. (a) What is an epidemic disease? <li style="padding-left: 20px;">(b) Which organ is affected if a person is suffering from jaundice? [2011 (T-II)] 2. Why are we normally advised to take bland and nourishing food when we are sick? [2011 (T-II)] 3. Why are antibiotics effective against bacteria | <p style="padding-left: 20px;">but not against viruses? [2011 (T-II)]</p> <ol style="list-style-type: none"> 4. State two consequences, which one has to face while dealing with an infectious disease? [2011 (T-II)] 5. If you visit a friend suffering from malaria, what are the chances of malaria spreading to you? [2011 (T-II)] |
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OTHER IMPORTANT QUESTIONS

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|--|---|
| <ol style="list-style-type: none"> 1. Which bacterium causes peptic ulcers? Who discovered the above pathogen for the first time? 2. Name any two groups of micro-organisms from which antibiotics could be extracted. 3. Give the importance of vaccination. 4. Name any two diseases transmitted through vectors. 5. Define and give examples of communicable diseases. | <ol style="list-style-type: none"> 6. How do pathogens cause diseases in human being? 7. What do you mean by disease symptoms? 8. How many types of chronic diseases have you studied? 9. How does deficiency of iron and iodine affect our body? 10. How can we prevent our children from the disease, kwashiorkor? |
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III. SHORT ANSWER QUESTIONS - II

(3 Marks)

PREVIOUS YEARS' QUESTIONS

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| <ol style="list-style-type: none"> 1. (a) Which of the following diseases are protozoan in origin?
Dengue, Malaria, Kala-azar and HIV-AIDS. | <ol style="list-style-type: none"> <li style="padding-left: 20px;">(b) Suggest any two ways to prevent being infected by protozoa. [2011 (T-II)] 2. (a) Why taking an antibiotic is not effective in the common cold? |
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- (b) Name two diseases against which infants below one year are vaccinated.
- (c) List two symptoms of any one of these diseases. [2011 (T-II)]

3. (i) State in brief the principle of immunisation.
- (ii) Name any two diseases that can be prevented by immunisation. [2011 (T-II)]
4. (i) Match the following columns with correct answers :

	Organism/ Bacteria	Diseases
a	Leishmania	worm
b	Staphylococci	Kala-azar
c	Trypanosoma	Acne
d	Ascaris	Steeping
e	Lumbricoides	sickness

- (ii) "High blood pressure can be caused by excessive weight and lack of exercise." Justify the statement. [2011 (T-II)]
5. (i) Give definition of 'health'?
- (ii) State and explain in brief the four major factors, which are the causes of disease. [2011 (T-II)]
6. (i) Differentiate between acute and chronic diseases.
- (ii) Give one example each of acute and of chronic diseases.
- (iii) Mention any two causes of body's diseases. [2011 (T-II)]
7. (i) Match the following columns with correct answers :

So.	Column-I	Column-II
(a)	Fungal disease	Dengue fever
(b)	Viral disease	Cholera
(c)	Protozoan disease	Skin disease
(d)	Bacterial disease	Malaria

- (ii) Name any one disease caused when the microbes target :
- (a) liver (b) lungs [2011 (T-II)]
8. "Prevention of disease is more desirable than its treatment". Justify the statement by discussing three major strategies to be adopted for the prevention of infectious diseases. [2011 (T-II)]
9. (a) Which system of our body is activated in response to infection and how it responds?

- (b) Explain how HIV-AIDS virus affects and damages our body? [2011 (T-II)]

10. (a) Explain why antibiotics are more effective in curing bacterial diseases than viral diseases.

- (b) List two means of spreading of infectious diseases. [2011 (T-II)]

11. What is human immune system? What is a vaccine? How immunisation can be achieved? [2011 (T-II)]

12. List any two differences between infectious and non-infectious diseases. Write any one example of each disease. [2011 (T-II)]

13. (a) If a person is suffering from jaundice, name the mode of its transmission and the organ affected by this disease.

- (b) List one general mode of prevention of jaundice.

- (c) It has been observed that despite the availability of the vaccine for Hepatitis A in the market, it may not be necessary to be given to children by the time they are 5 years old. Why? [2011 (T-II)]

14. (a) Doctors diagnosed that Radha was suffering from HIV-AIDS. List any two methods by which she might have contacted the disease. Name the organ affected by this disease.

- (b) Why antibiotics cannot be used for its treatment? Justify your answer. [2011 (T-II)]

15. Ravi suffered from tuberculosis, while Rehman suffered from typhoid. Which disease caused more damage and why? [2011 (T-II)]

16. (a) Mention two factors on which severity of disease manifestation depends?

- (b) Once you have been infected with small pox, there is no chance of suffering from it again. Give reason.

- (c) Mention the two ways of preventing 'diseases'? [2011 (T-II)]

17. (a) Define antibiotic? Explain how it is able to control bacterial infections but not viral infections.

- (b) Write two water borne disease. [2011 (T-II)]

18. (a) Name the system affected by AIDS.

- (b) Mention the cause of death of people suffering from AIDS?

- (c) Name two ways of communication of disease. [2011 (T-II)]

19. What are the principles of treatment of a disease? [2011 (T-II)]
20. (a) Name two diseases from which the children below the age of one year should be vaccinated.
(b) What are the symptoms shown by a person if :
(i) lungs get infected?
(ii) stomach is infected? [2011 (T-II)]
21. (a) A hefty boy of 12 years often picks fights with others. Do you think he is in good health? If so, then explain your answer.
(b) Give an example each of disease caused by
(i) Protozoa (ii) Bacterium
(iii) Virus (iv) Worm [2011 (T-II)]
22. Identify the diseases which spread through the following means? Also name the target organs.
(a) Sexual contact (b) Mosquitoes
(c) From air via nose [2011 (T-II)]
23. In previous years a group of people did not have the fear of contacting exposed to small pox and would provide nursing care for the victims. Discuss why? [2011 (T-II)]
24. What would be the symptoms if the microbe infects the following targets?
(a) Lungs (b) Liver
(c) Brain [2011 (T-II)]
25. Suggest three ways to prevent spreading of infectious diseases. [2011 (T-II)]
26. What are vectors? Name the vectors of malaria and kala-azar. [2011 (T-II)]
27. How principle of immunization is implemented for eliminating polio? [2011 (T-II)]
28. (a) What are communicable disease?
(b) What are the common methods of transmission of disease? [2011 (T-II)]
29. What are the two approaches to treat any infectious diseases? [2011 (T-II)]
30. A person was bitten by a stray dog. After some days his nature gets irritated, he started fearing water.
(a) Name the disease.
(b) Is there any plan vaccine available?
(c) Is there any plan of your local authority for the control of this disease? [2011 (T-II)]
31. (a) Name the organism causing the following diseases.
(i) Kala-azar (ii) Sleeping sickness
(b) Give one example each of acute and chronic disease.
32. 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.
(iii) Describe any two modes of its transmission for one person to another. [2011 (T-II)]
33. Write any three common preventive measures against communicable diseases. [2011 (T-II)]
34. Define immunity. Explain natural and acquired immunity. [2011 (T-II)]
35. Name the infectious disease that leads to immuno deficiency. Write the scientific name of the pathogen causing the disease. Mention the body organs it primarily affects. [2011 (T-II)]
36. List three limitations which a person has to face while suffering from an infectious disease. [2011 (T-II)]
37. (a) How does antibiotic penicillin work against bacterial infection?
(b) Name one bacterial disease that spreads through contaminated water? [2011 (T-II)]
38. (a) Write few common signs and symptoms of a disease if brain is affected.
(b) Give one local and one general effect of inflammation process. [2011 (T-II)]
39. Mention the symptoms because of which you will visit the doctor and why? [2011 (T-II)]
40. (a) What is the basic principle of vaccination? [2011 (T-II)]
(b) Name two diseases that can be prevented by using vaccine.
41. (a) Mohan suffered from chicken pox in his childhood. He would not suffer from this disease again. Mention reason for this.
(b) On which factor does the severity of disease manifestation depends? Explain with an example. [2011 (T-II)]
42. (a) Why a person suffering from AIDS cannot fight even very small infections?
(b) In a slum area many people are suffering from malaria mention any two unhygienic conditions that must be prevailing in that locality?

- (c) Why female *Anopheles* mosquito feeds on human blood? [2011 (T-II)]
43. (a) List two causes of spread of typhoid.
(b) Mention two ways by which we can prevent the spread of this disease. [2011 (T-II)]
44. (a) Give reason for the following :
(i) We are advised to take blended and nourishing food when we are sick.
(ii) Majority of children in many parts of India are already immune to Hepatitis A.
(b) List any two diseases which are prevented by immunization. [2011 (T-II)]
45. (a) What is immunizations?
(b) Categorise the following into acute/chronic/infectious/non infectious diseases : typhoid, TB, Goitre, Elephantiasis. [2011 (T-II)]
46. Give cause and remedy of : [2011 (T-II)]
(a) Hepatitis (b) AIDS (c) Malaria
47. Discuss any three limitations to deal with the infectious diseases. [2011 (T-II)]
48. (a) Immune system is essential for our health. Comment on the above statement.
(b) How can we acquire immunity? [2011 (T-II)]
49. (a) Define 'disease'.
(b) Explain briefly the two groups of causes of diseases. [2011 (T-II)]
50. How do diseases spread through air? Name two such diseases. [2011 (T-II)]
51. In a slum area many people are reported to be suffering from malaria. Mention the unhygienic conditions that must be prevailing there. Name the causative organism. List various preventive measures. [2011 (T-II)]
52. Observe the example and complete the rest :
Ex. diabetes : non communicable : : chicken pox. communicable
(a) Pneumonia : acute : : tuberculosis : _____
(b) Anthrax : bacteria : : elephantiasis : _____
(c) AIDS : _____ : : encephalitis : brain. [2011 (T-II)]
53. (a) Who discovered 'vaccine for the first time'?
(b) Name two viral diseases which can be prevented by using vaccines. What is immunity? [2011 (T-II)]

OTHER IMPORTANT QUESTIONS

- Why are antibiotics not effective for viral diseases?
- Give any three factors necessary to remain healthy.
- Name the target organs for the following diseases :
(a) Hepatitis (b) Faint or unconsciousness
(c) Pneumonia
- Classify the following diseases as infectious or non-infectious :
(a) AIDS
(b) Tuberculosis
(c) Cholera
(d) High blood pressure
(e) Heart disease
(f) Pneumonia
- Give two symptoms of each of the following diseases
(a) Malaria (b) Marasmus (c) Typhoid

IV. LONG ANSWER QUESTIONS

(5 Marks)

PREVIOUS YEARS' QUESTIONS

- Explain giving reasons
(a) Balanced diet is necessary for maintaining a healthy body.
(b) Health of an organism depends upon the surrounding environmental conditions.
(c) Our surrounding area should be free of stagnant water.
(d) Social harmony and good economic conditions are necessary for good health.
- Why is immune system essential for our health?
- What precautions will you take to justify "prevention is better than cure"?
- Becoming exposed to or infected with an infectious microbe does not necessarily mean developing noticeable disease. Explain.
- Why is AIDS considered to be a 'Syndrome' and not a disease?

ASSIGNMENTS FOR FORMATIVE ASSESSMENT

A. Activities

1. To study the life cycle of a mosquito.

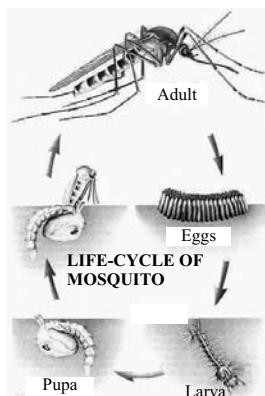
Materials Required : A chart showing the life-cycle of a mosquito, permanent slides showing different stages of mosquito and compound microscope.

Procedure :

- Observe the chart carefully and note down the different stages of life-cycle.
- Observe the main characteristics of each stage.
- Observe the permanent slides one-by-one under the low power of microscope.
- Draw the diagrams of different stages and name them.

Observations :

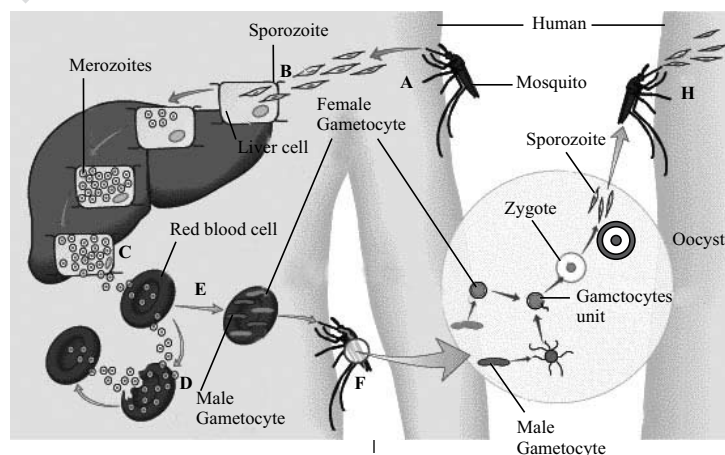
Different stages in the life-cycle of a mosquito are - Eggs, Larva, Pupa, and Adult.



- 2.

Materials Required : A chart showing the life-cycle of malarial parasite i.e. *Plasmodium*, permanent slides of malarial parasite *Plasmodium* and compound microscope.

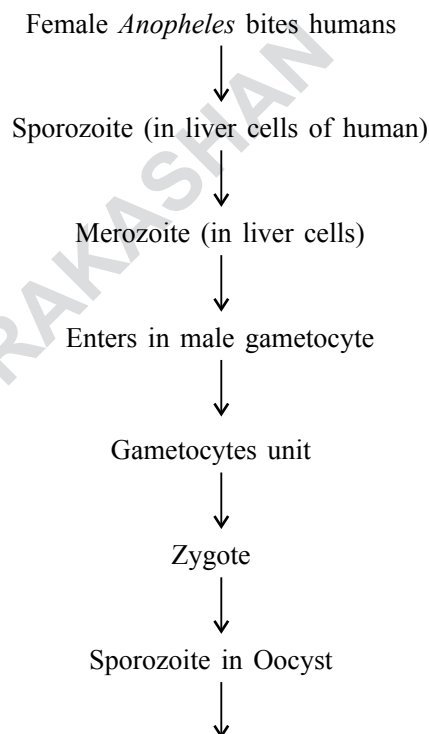
Observations :



Life cycle of *plasmodium*

Procedure :

- Study the chart carefully and note down the different stages of life-cycle of *Plasmodium*, starting with the mosquito bite.
- Observe the permanent slides showing different stages of *Plasmodium*, under low power of microscope.
- Draw a flow chart of different stages of life-cycle of *Plasmodium*.

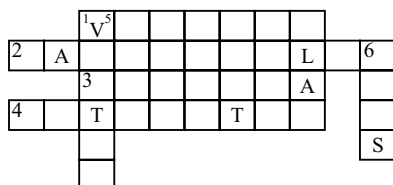


Mosquito bites the humans, sucks the blood and sporozoites enter into the stomach of mosquito (Female *Anopheles*)

B. Puzzle

Across

1. A suspension of disease producing micro organisms
2. A genetic disease of humans
3. An example of acute disease
4. An example of chronic disease



Down

5. A carrier of specific germs
6. A disease which spreads through infected blood or syringes.

C. Group Activities

1. Find out the steps undertaken by municipal authorities for the supply of clean drinking water in your locality.

Analyse the various steps and answer the following questions :

- (i) Whether these steps are adequate or not?
 - (ii) Can you suggest any other steps?
 - (iii) What can be done to reduce the amount of water wastage?
2. Think of the situations in which the word 'health' is used in our daily life. Note down the ways in which our health become poor. Give the precautions which should be taken to avoid getting sick.
 3. Prepare the groups of 4-5 students. Ask each group to spread the awareness of pulse polio programme in their locality and list the number of children below 5 years with their address for giving polio-vaccine.

D. Survey

1. Survey your neighbourhood to find out:
 - (1) how many people suffered from acute diseases during the last three months.
 - (2) how many people developed chronic diseases during this same period.
 - (3) and finally, the total number of people suffering from chronic diseases in your neighbourhood. Make a list of these three

types of people. What do you think could be the reason for these differences? What do you think would be the effect of these differences on the general health of the population?

2. Conduct a survey in your locality. Talk to ten families who are well-off and ten families who are very poor (in your estimation). Both sets of families should have children who are below five years of age. Measure the heights of these children. Draw a graph of the height of each child against its age for both sets of families.

- Is there a difference between the groups? If yes, why?
- If there is no difference, do you think that your findings mean that being well-off or poor does not matter for health?

E. Seminar

Topics :

1. "Infectious diseases can be prevented by public health hygiene measures that reduce exposure to infectious agents."

[Hints : Discuss the following points

- (i) Preventing the exposure to disease-causing microbes.
 - (ii) Importance of proper and sufficient food.
 - (iii) Proper sanitation facilities in every locality.
 - (iv) Effective immunisation programme]
2. "Acute and chronic diseases in relation to health".

[Hints : Discuss the following points :-

- (i) Effect of acute diseases on our health.
- (ii) Precautions to be taken to avoid acute diseases.
- (iii) The drastic long term effects of chronic diseases on our health.
- (iv) Carriers and vectors of chronic diseases.]

F. Debate

1. How important is social dimension of human-health?
2. Public hygiene is the key for prevention of communicable diseases.
3. Poor people are affected more by chronic diseases.
4. Preventing infections is mostly related to preventing exposure.