

Keeping Diseases Away

Que 1: Certain indications related to diseases are given below. Write suitable reasons for each.

Marks :(2)

1. An ash-coloured thick coating forms in the throat in Diphtheria disease.
2. It is necessary to prevent the onset of water borne diseases in flood affected parts.

Ans:

1. Cells in the mucus membrane which are destroyed by the toxins produced by Diphtheria bacteria make an ash-colored thick coating in the throat.
2. In flood affected areas, there is the chance for the multiplication of mosquitoes and other vectors in stagnant water. Hence it is necessary to prevent the onset of water borne diseases in flood affected areas.

Que 2: As per the given model, arrange the following information's

Disease -Pathogen -Victim

a) Foot and mouth disease b) Blight c) Malaria d) Bacteria e) Virus f) Protozoa g) Humans h) Cattle i) Plant

Marks :(3)

Ans:

Disease	Pathogen	Victim
a	e	h
b	d	i
c	f	g

Que 3: Correct mistake if any by replacing the underlined word **Marks :(3)**

a) Haemophilia is a lifestyle disease

b) Ultimate source of Nipah is Pig

c) Emphysima affects brain

Ans: a) Genetic disease

b) Bat

c) Lungs

Que 4: Analyse and write the path of Nipah virus from the source to human
Marks :(3)

Ans:

Bat → Fruit → Human
 Bat → Human
 Bat → Pig → Human
 Bat → Fruit → Pig → Human
 Pig → Human
 Human → Human

Que 5: Classify the following diseases on the basis of pathogens Marks :(4)

a) Leptospirosis b) Nipah c) Athletes foot d) Malaria

Ans: a) Bacteria disease

b) Virus disease

c) Fungal disease

d) Protozoal disease

Que 6: Analyse the following symptoms and answer the questions.

*** Fever**

*** Sore throat**

*** Swelling of lymph glands in neck**

*** Grey coloured layer formed in throat**

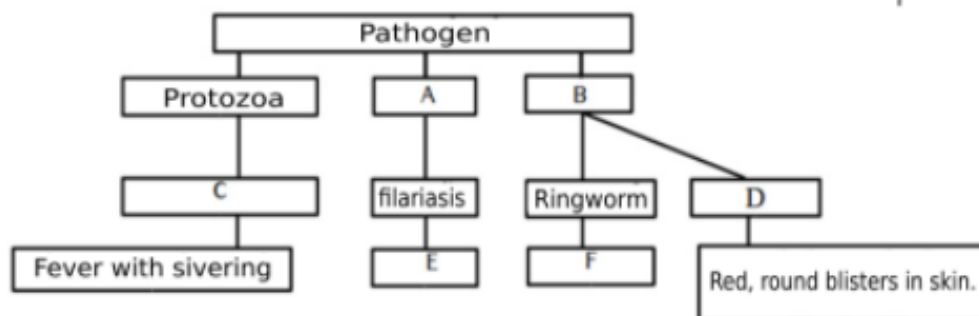
a) Write the name of this disease and its pathogen

b) Prevention is better than cure. This slogan is very much applicable to this disease. Why? Marks :(3)

Ans: a) Diphtheria. Coryne bacterium diphtheriae

b) This disease is fatal. It is very difficult to treat this disease. Highly infectious. So, the better option is vaccination to prevent the disease.

Que 7: Complete the concept map. Marks :(3)



Ans: A- Worms

B- Fungus

C- Malaria

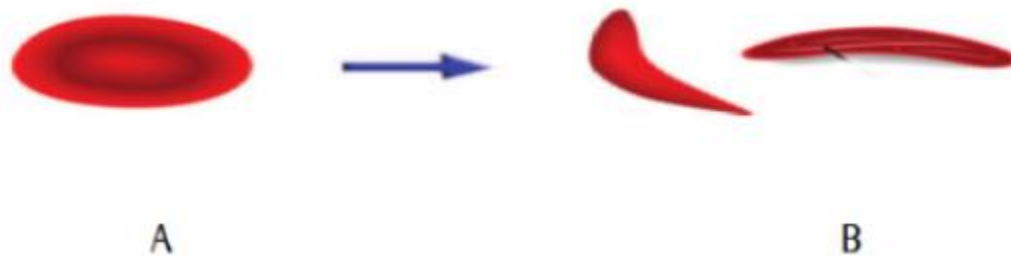
D- Athletes foot

E- The lymph vessels in the legs swell.

F- Red, round blisters in skin.

Que 8: Observe the pictures A and B.

Marks :(4)



a) Write the reason for the differences in the shapes of RBCs in pictures A and B.

b) Name the disease indicated by 'B'.

c) To which group does this disease belong?

d) Give the reason why the patients with this disease experience anemia.

Ans: a) A- Normal red blood cell, B- Sickled RBC

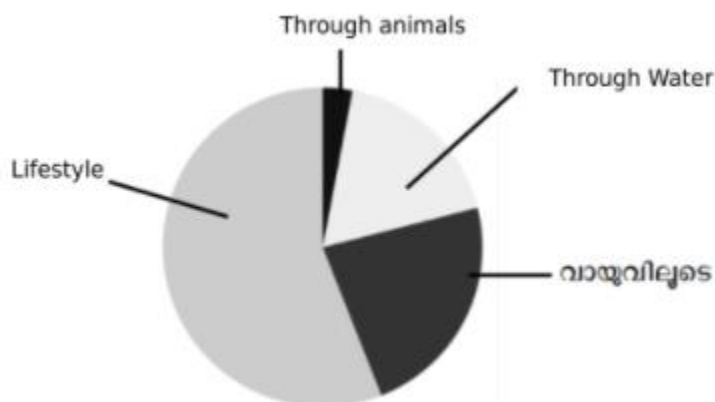
b) B- Sickle cell anemia

c) Genetic disease

d) The oxygen carrying capacity of red blood cells decreases. The sickle shaped RBCs get collected in the blood vessels and block the flow of blood in them.

Que 9: The health survey information in a city is depicted in the following pie diagram. Analyse it and answer the following questions.

Marks :(4)



a) Which disease affected less people.

- b) Which diseases affected more people.
- c) Write any two examples for these diseases.
- d) Mention any two health habits to prevent these diseases.

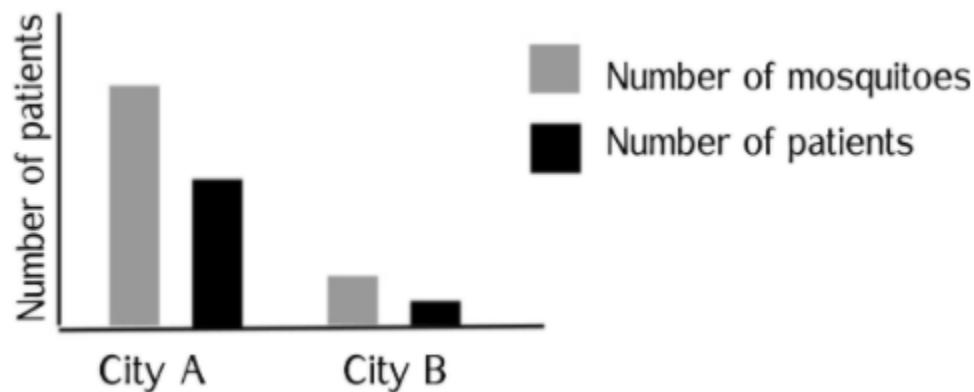
Ans: a) Diseases spread through animals- e.g., Anthrax.

b) Lifestyle diseases

c) Diabetes, fatty liver.

d) Avoid fat containing food, Undertake suitable exercises.

Que 10: A graph prepared in accordance with the health survey is given below. Analyse the graph and answer the following questions.



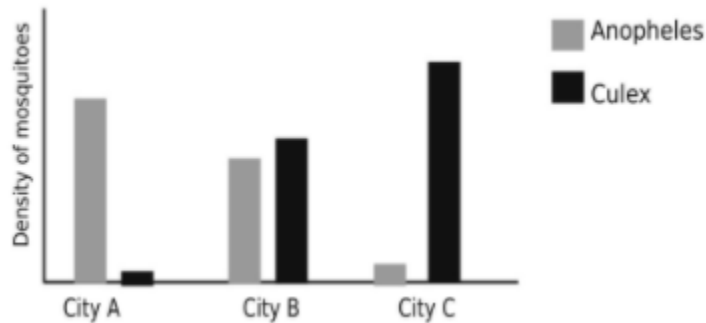
- a) How do the density of mosquitoes and the number of patients relate?
- b) Mention any two communicable diseases that can affect the people in this area.
- c) Give any two activities that can be taken to prevent these diseases. **Marks :(4)**

Ans: a) The number of patients increases in accordance with the increase in number of mosquitoes.

b) Dengue fever, chikungunya.

c) Control of mosquitoes, environmental hygiene, observance of dry day.

Que 11: Analyse the graph and answer the questions.



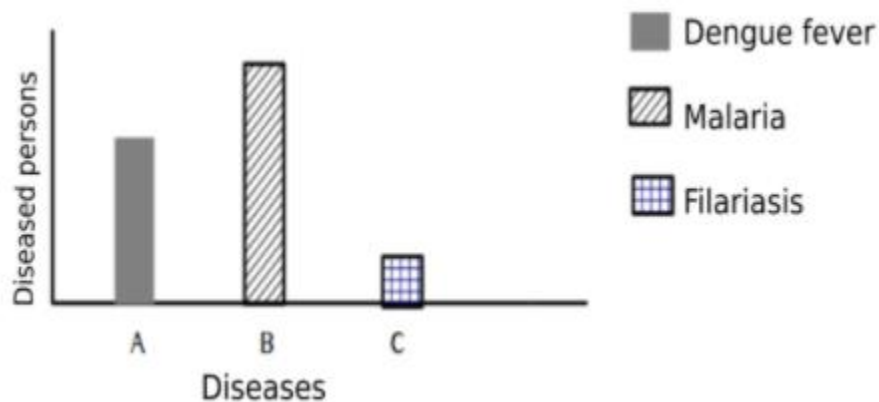
- Which disease will affect more in city A?
 - Which disease has highest possibility of occurrence in city C?
 - What measures should be taken by the people of cities A, B and C in order to prevent various diseases.
- Marks :(3)**

Ans: a) Malaria

b) Filariasis

c) Must take mosquito control measures (Observance of dry day, environmental hygiene)

Que 12: A graph indicating the spread of various diseases in an area during rainy season is given below. Analyse and answer the following questions.



- Name the pathogen that contracted most?
 - Which disease is caused by the filarial worm?
 - Mention the steps to avoid the spread of these diseases.
- Marks :(3)**

Ans: a) A- Protozoa

b) B- filariasis

c) C- Control the growth of mosquitoes, keep hygienic environment, avoid the stagnation of water.

Que 13: Evaluate the statements given below and write the significance of each.

- 1. Vaccination is the best way to prevent Diphtheria.**
- 2. Consuming partially eaten fruits by bats pose serious health hazards.**

Marks :(2)

Ans:

- Antitoxins which act against the toxins are used to protect the uninfected cells. But, if the disease becomes severe the patient cannot be recovered through medication. So, vaccination is the best preventive method.
- Consuming partially eaten fruits by bats with viruses like NIPAH pose serious health hazards because of the possibility of disease occurrence. So it is necessary to avoid its consumption.

Que 14: Identify the diseases given and complete the table giving the causative organism and the symptoms of diseases.

Marks :(4)

Disease	Pathogen	Symptom
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Rate fever

Tuberculosis

Diphtheria

AIDS

Ans:

Disease	Pathogen	Symptom
Rate fever	Leptospira bacteria	Severe fever, headache, muscle pain, redness in eyes, etc. are the major symptoms.
Tuberculosis	Mycobacterium tuberculosis	Loss of body weight, fatigue, persistent cough
Diphtheria	Corynebacterium diphtheriae	Fever, throat pain and inflammation in the lymph glands of the throat.
AIDS	Human immunodeficiency Virus	Reduces the immunity of the body, various other pathogens enter the body and make the condition of AIDS even more fatal.

Que 15: Based on the symptoms given, identify the disease. Describe the cause of spread and mention the preventive measures.

Marks :(3)

- Increased amount of Bilirubin in blood.**
- Yellow color in the white of eye and nail.**

Ans: Disease- Hepatitis

Mode of spread: Disease gets transmitted through contaminated food and water, blood components and excreta of the patient.

Preventive measures: - Keep food materials clean, drink only boiled and cooled water.

Que 16: Identify the mode of spread of the following diseases and list suitable preventive measures. **Marks :(3)**

1. Rat fever
2. Diphtheria
3. Tuberculosis

Ans:

1. Rat fever

Mode of spread: The bacteria that comes out through the urine of rat, dog and certain other animals remain alive in stagnant water and moisture. When bacteria reach blood through wounds and affect body cells.

Preventive measures: Destruction of rats, remove stagnant water, ensure germ free environment, keep a *hygienic environment*.

2. Diphtheria

Mode of spread: When the patient speaks, coughs or sneezes, the pathogens spread into the air and thereby to others.

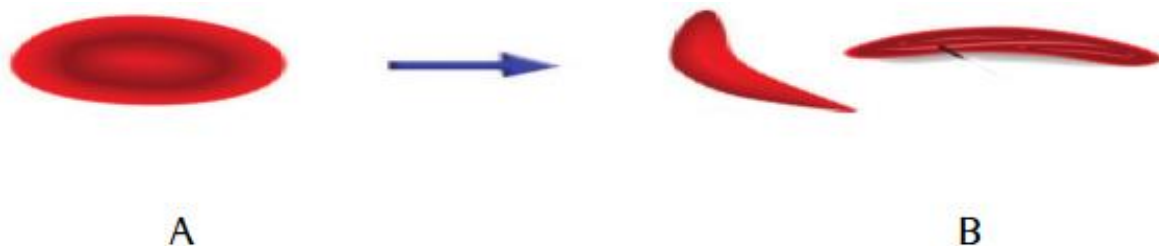
Preventive measures: - Receive anti-diphtheria vaccine, avoid contact with diphtheria patients.

3. Tuberculosis

Mode of spread: When the patient speaks, coughs or sneezes, the pathogens spread into the air and thereby to others.

Preventive measures: - Receive BCG vaccine, avoid contact with diphtheria patients.

Que 17: Observe figures A and B



a) What is the reason for the difference in the shape of the red blood cells in figures A and B?

b) Which disease is indicated by the figure B ?

c) In which category does this disease belong to ?

d) What is the reason for the anemic condition of these patients? Marks :(4)

Ans: a) A - Normal RBC, B- Sickle shaped RBC

b) B - Sickle cell anaemia

c) Genetic disease

d) The oxygen carrying capacity of red blood cells decreases. The sickle shaped RBCs get collected in the blood vessels and block the flow of blood in them

Que 18: Chemotherapy and radiation therapy are used in the treatment of which disease?

What are the factors which lead to this disease?

Marks :(3)

Ans: For the treatment of Cancer.

virus, radiations, environmental factors, smoking, hereditary factors

Que 19: Microorganisms cause all the diseases which affect human beings.

What is your response towards this opinion which arouse during a class room discussion?

Explain with suitable example.

Marks :(2)

Ans: This opinion is not correct. All diseases are not caused by microorganisms. For Example, Haemophilia occurs due to defect in the genes.

(Any other nonpathogenic diseases - life style diseases, Deficiency diseases, hormone diseases)

Que 20: Write four concepts which can be included in the poster prepared by the school health club as part of tuberculosis awareness program. Marks :(2)

Ans:

- Tuberculosis spreads through the air
- It is caused by Bacteria
- Vaccine against this disease is BCG
- DOTS is an effective treatment for this disease

Que 21: Arrange the diseases given in the box based on pathogens which causes them, giving appropriate heading Marks :(3)

Athletes foot, Nipah, Diphtheria, ringworm, blight, mosaic disease

Ans:

Bacteria	Fungus	Virus
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Blight	Athletes foot	Nipah
Diphtheria	ringworm	mosaic disease

Que 22: Anthrax is a disease transmitted due the contact with animals.

a) Which microbe causes this disease ?

b) Name two other diseases caused by the same type of microbe and the mode of transmission
Marks :(2)

Ans: a) Bacteria

b) Through air - Tuberculosis

Through water contaminated with urine of rat

Que 23: Characteristic features of some microbes are given below. Identify them.

a) Unicellular organisms without a prominent nucleus. Most of the cell organelles are absent.

b) Multiplies by binary fission. Simple structure with genetic material covered with a protein coat.
Marks :(3)

Ans: a) Bacteria

b) virus

Que 24: News report

Marks :(2)

School authorities refused the stay of HIV infected student in school hostel, as the disease may get transmitted to other students.

a) What is your to response as a science student to this news report ?

b) What kind of approach is needed towards HIV positive individuals?

Ans: a) HIV spreads only through body fluids. It doesn't spread by touch, staying together, shaking hands and sharing food. So, the child should not be denied permission to stay in the hostel.

b) No need to fear the AIDS patient. The patient should be seen with compassion. The patient and relatives should be awared about the disease and treatment. should not isolate them in society.

Que 25: A microorganism reduces the immunity of the body by reducing the number of lymphocytes
Marks :(3)

a) Which microbe is this ?

b) Name the disease caused by this microbe.

c) What are the different means of transmission of this disease ?

Ans: a) HIV

b) AIDS

c) By sharing needle and syringe contaminated with HIV components. Through sexual contact with HIV infected person. Through the reception of blood and organs contaminated with HIV. From HIV infected mother to the foetus.

Que 26: Observing dry day once in a week helps to control diseases like dengue fever, chikungunya etc. Evaluate this statement **Marks :(2)**

Ans: By observing Dry Day, we can control the multiplication of mosquitoes. Thus we can control the diseases like Dengue fever, Chikungunya, etc

Que 27: Analyse the statements given below and identify the diseases.

a) The number of lymphocytes in the body reduces and immunity of the body declines.

b) Flow of lymph from the lymph gland gets obstructed.

c) Oxygen carrying capacity reduces due to the defect in the structure of haemoglobin **Marks :(3)**

Ans: a) AIDS

b) Filariasis

c) Sickle cell anaemia

Que 28: Choose the correct statement about viruses. **Marks :(1)**

i) Viruses have a simple body structure with DNA or RNA covered by a protein coat.

ii) All the cell organelles are present in viruses.

iii) Viruses multiply their number by utilising the genetic mechanism of the host cell.

iv) viruses will not attack microbes like bacteria.

a) i and ii are correct b) i and ii are correct c) ii and iii are correct

Ans: b) i and ii are correct

Que 29: Complete the table

Marks :(4)

A	Fungus	B	Red rashes on the skin
Tuberculosis	C	Through air	D
Malaria	E	Through mosquito	F

G	Filarial worm	H	Swelling in the lymph gland
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Ans: A. Ringworm

B. through contact

C. Bacteria

D. persistent cough

E. plasmodium

F. High fever with shivering

G. Filariasis

H. Through mosquitoes

Que 30: The following are some health habits to prevent certain diseases. Properly pair these habits with the diseases listed in the box. Marks :(2)

a) Avoid smoking habits.

b) Avoid mosquitoes.

Emphysema, Athletes' foot, Dengue fever
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Ans: a) Emphysema

b) Dengue fever

Que 31: A particular type of microbe causes diseases like Nipah, chikungunya and Hepatitis.

a) Identify the microbe.

b) How does this organism increase its number ?

c) Explain the general structure of this microbe. Marks :(3)

Ans: a) Virus

b) multiplies by taking control over the genetic mechanism of the host cells.

c) simple structure with a DNA or RNA molecule within a protein coat

Que 32: The pathogen enters the body and multiplies its number by utilising the genetic mechanism of the lymphocytes.

a) Which microbe is mentioned here ?

b) Name a disease caused by this pathogen ?

c) Write four modes of transmission of this disease. Marks :(4)

Ans: a) HIV

b) AIDS

c) Through sexual contact with HIV infected person.

From HIV infected mother to the foetus

By sharing needle and syringe contaminated HIV components.

Through the reception of blood and organs contaminated with HIV