

1. Match the diseases in Column I with their categories in Column II

| Column I | Column II |
|----------|-----------|
| Plague | Sporadic |
| Malaria | Pandemic |
| Goitre | Epidemic |
| AIDS | Endemic |

Solution:

| Column I | Column II |
|----------|-----------|
| Plague | Epidemic |
| Malaria | Sporadic |
| Goitre | Endemic |
| AIDS | Pandemic |

2. Classify the following diseases into communicable and non-communicable diseases: cholera, beri-beri, colour blindness, diabetes, malaria, plague, heart-attack.

- (i) Communicable _____
(ii) Non-communicable _____

Solution:

The table classifies the diseases into communicable and non-communicable:

| Communicable | Non-communicable |
|--------------|------------------|
| Cholera | Ber-beri |
| Malaria | Colour-blindness |
| Plague | Diabetes |
| | Heart-attack |

Review Questions

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A. Multiple Choice Type

1. A disease widely spread worldwide is known as

- (a) Endemic
- (b) Epidemic
- (c) Pandemic
- (d) Sporadic

Solution:

- (c) Pandemic

These are the diseases that are widely distributed across the world. Example - AIDS

2. The letter “B” in the name BCG vaccination stands for:

- (a) Brief
- (b) Beri-beri
- (c) Bacteria
- (d) Bacillus

Solution:

- (d) Bacillus

It is a vaccination primarily used to treat Tuberculosis.

3. Use of disposable syringes for injecting medicines, etc. is specially advised to prevent

- (a) Poliomyelitis
- (b) Mumps
- (c) Rabies
- (d) AIDS

Solution:

- (d) AIDS

The AIDS virus is highly infective.

4. The vector that transmits the malarial pathogen is:

- (a) Culex mosquito
- (b) Housefly
- (c) Anopheles mosquito
- (d) Entamoeba

Solution:

- (c) Anopheles mosquito

The infective stage of the parasite is transmitted through the bite of the female Anopheles mosquito along with its saliva.

5. Amoebiasis is caused by the protozoan:

- (a) Amoeba proteus
- (b) Euglena

(c) Plasmodium

(d) Entamoeba

Solution:

(d) Entamoeba

It is a kind of amoeba that causes amoebic dysentery.

6. BCG vaccine provides immunity against:

(a) Tetanus

(b) Cholera

(c) AIDS

(d) Tuberculosis

Solution:

(d) Tuberculosis

BCG is used in the prevention of Tuberculosis caused by Mycobacterium tuberculosis

7. The expanded forms of AIDS is:

(a) Active Immunity Deficiency Syndrome

(b) Acquired Immuno Deficiency Syndrome

(c) Acquired Immuno Deficiency Status

(d) Active Immuno Deficiency Syndrome

Solution:

(b) Acquired Immuno Deficiency Syndrome

AIDS is a pandemic disease caused by HIV.

B. Very short answer type

1. Mention whether the following statements are true (T) or false (F).

(a) Filariasis is transmitted by the housefly

T/F

(b) Malaria is caused by a protozoan

T/F

(c) BCG vaccine is used for chicken pox

T/F

(d) Louis Pasteur discovered a cure for malaria

T/F

(e) AIDS is caused by a bacterium.

T/F

(f) HIV is a serious disease, usually fatal.

T/F

(g) AIDS is not transmitted by contact with a patient's clothes

T/F

(h) Chicken pox and hepatitis are bacterial diseases.

T/F

(i) Goitre is endemic in sub-Himalayan regions of India.

T/F

(j) AIDS is caused by a fungus

T/F

(k) Hay fever and asthma are allergies

T/F

(l) Smallpox still occurs in India

T/F

(m) The disease Filariasis is caused by the bite of female anopheles mosquito

T/F

Solution:

(a) The statement is false. Filariasis is transmitted by Culex mosquito

(b) The statement is true

(c) The statement is false. BCG vaccine is used to treat tuberculosis

(d) The statement is false. Louis Pasteur discovered a cure for rabies

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- (e) The statement is false. AIDS is caused by a virus (HIV).
- (f) The statement is true.
- (g) The statement is true.
- (h) The statement is false. They are not bacterial but viral diseases.
- (i) The statement is true.
- (j) The statement is false. AIDS is caused by a virus (HIV).
- (k) The statement is true.
- (l) The statement is false. Smallpox has been eliminated from India.
- (m) The statement is false. The disease is caused by the filarial worm *Wuchereria bancrofti*.

2. Write the full form of AIDS.

Solution:

The full form of AIDS is - Acquired Immuno Deficiency Syndrome

3. Name the following:

- (a) Category of pathogen that causes diseases, like common cold and mumps _____
- (b) The vaccine for preventing tuberculosis _____
- (c) An organ usually affected by tuberculosis _____
- (d) A disease that weakens body's defense system against infections _____
- (e) Germ of germ-substance introduced into the body to prevent occurrence of an infectious disease _____
- (f) The vector responsible for transmission of sleeping sickness _____
- (g) The microorganism that requires a host to produce _____
- (h) The popular name of the disease Filariasis _____

Solution:

- (a) Viruses
- (b) BCG
- (c) Lungs
- (d) AIDS
- (e) Vaccine
- (f) Tsetse fly
- (g) Virus
- (h) Elephantiasis

C. Short Answer Type

1. Define the terms infection, pathogen, incubation period and allergen.

Solution:

The definitions are as follows:

Infection – It is the transmission of diseases from one person to another.

Pathogen – A pathogen is a disease-causing micro-organism.

Incubation period – It is the period between the entry of germs and appearance of the first symptoms of the disease.

Allergen – An allergen is an antigenic substance that is capable of producing immediate hypersensitivity allergy.

2. What are the different ways in which infectious diseases can spread?

Solution:

The different ways in which infectious diseases can spread are:

- Direct contact – It can spread from person to person, zoonotic diseases (spread between animals and humans), from mother to child.
- Indirect contact
- Different media of transmission such as air, water etc
- Carriers/vectors – mosquitoes
- Contaminated food and water

3. Name any four non-infectious diseases and their causes.

Solution:

Four infectious diseases and their causes are as follows:

| Name of the disease | Cause |
|---------------------|------------------------|
| Diabetes | Metabolic reasons |
| Arthritis | Degenerative disease |
| Hay fever | Allergies |
| Beri-beri | Nutritional deficiency |

4. Why is it important to know how the germs leave the body of a patient?

Solution:

It is because several diseases are transmitted through direct contact or through modes such as air, water etc. Hence to take precautionary measures and protect others from infections furthermore, it is necessary to know how the germs move out of the body of a patient.

5. Name the causative germ of AIDS. How is this disease transmitted?

Solution:

The causative of AIDS is HIV – Human Immunodeficiency Virus. The disease can be transmitted by the following means:

- Sexual intercourse
- Contaminated blood transfusions
- Mother to child transmission
- Injection needles

D. Long Answer Type

1. Write very briefly about the following:

- (a) BCG
- (b) Incubation period
- (c) Chicken pox
- (d) Hepatitis A

Solution:

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- (a) BCG – BCG (Bacillus Calmette Guerin) is a vaccine that is used to treat Tuberculosis (TB) which is a bacterial disease as it develops immunity to TB.
- (b) Incubation period – It is the period between the entrance of the germs and the appearance of the first symptoms of the disease. Incubation period of Tetanus of 4-20 days.
- (c) Chicken pox – It is caused by the Herpes Varicella zoster virus and is a viral disease. It rapidly spreads through close contact with the person infected.
- (d) Hepatitis A – It is caused by the Hepatitis A virus and is a viral disease that results in liver inflammation. It is transferred primarily through contaminated water and food.

2. What are the causes and symptoms of malaria, chicken pox and tuberculosis? How can these diseases be prevented?

Solution:

The causes, symptoms and preventive measure of malaria, chicken pox and tuberculosis are given below:

| Name of the disease | Causes | Symptoms | Preventive measures |
|---------------------|----------------------------|---|--|
| Malaria | Plasmodium | <ul style="list-style-type: none"> • High fever • Chills • Profuse sweating • Nausea • Vomiting • Fatigue • Body pain • Severe headache | Avoid mosquito bites using mosquito repellants and nets Avoid being around stagnant water |
| Chicken pox | Varicella zoster | Rashes near the back and the chest eventually spreading to arms, face, legs and head | Vaccination of live attenuated vaccine having Varicella to children. |
| Tuberculosis | Mycobacterium tuberculosis | <ul style="list-style-type: none"> • Afternoon fever • Persistent cough • Weight loss • Blood in mucous • Chest pain • Fatigue | Isolate the patient, BCG vaccination. |