

# Health and Hygiene

## Multiple Choice questions:

1. Put a tick mark (✓) against the correct alternative in the following statements:

**(a) Malaria is caused by:**

- (i) Bacteria
- (ii) Protozoan**
- (iii) Fungi
- (iv) Virus

**(b) Deficiency of calcium causes**

**(i) Poor growth of teeth and gums**

- (ii) Goitre
- (iii) Anaemia
- (iv) Polio

**(c) Hay fever and asthma are**

- (i) Deficiency diseases
- (ii) Genetic diseases
- (iii) Organic diseases
- (iv) Allergy diseases**

**PQ. Cataract is a disease of:**

- (i) Ears
- (ii) Nose
- (iii) Eyes**
- (iv) Throat

**(d) Infectious diseases can be prevented by:**

- (i) Medicines
- (ii) Proper food
- (iii) Immunisation**
- (iv) Exercise

**(e) Which one of the following is a genetic disease?**

- (i) Scurvy
- (ii) Leukemia
- (iii) Goitre
- (iv) Haemophilia**

**(f) Which one of the following is a degenerative disease?**

- (i) Thalassemia**
- (ii) Ben-ben

- (iii) Cataract
- (iv) Diabetes

**(g) Pellagra is one disease caused by the deficiency of:**

- (i) Vit. B3**
- (ii) Vit. B1
- (iii) Vit. C
- (iv) Vit. D

**(h) Deficiency of Iodine in one's food can cause:**

- (i) Ben-ben
- (ii) Goitre**
- (iii) Scurvy
- (iv) Pellagra

**(i) Which one of the following mineral deficiency diseases can be cured by eating a diet which include green leafy vegetables, banana, cereals, egg-yolk?**

- (i) Goitre
- (ii) Anaemia**
- (iii) Brittle bones
- (iv) Pain in muscle contraction

**(j) Which one of the following vitamin deficiency diseases can be cured by eating a diet which includes carrot, yellow fruits, vegetables, butter, milk, fish ?**

- (i) Beri-beri
- (ii) Dermatitis
- (iii) Night blindness**
- (iv) Scurvy

**(k) Which one of the following is a communicable disease?**

- (i) Measles**
- (ii) Cancer
- (iii) Heart stroke
- (iv) Allergy

**Short Answer Questions:**

**Question 1(a).**

What is a non-communicable disease ?

**Answer:**

The diseases which are caused due to improper functioning of the body organs e.g. diabetes, heart attack. They are not caused by germs and not transmitted from one to another.

**Question 1(b).**

What is a deficiency disease

**Answer:**

These disease are caused by lack of nutrients, vitamins, minerals as a anaemia, goitre.

**Question 1(c).**

What are communicable diseases ? How can they be avoided ?

**Answer:**

Those disease which spread from one person to another by the entry of microorganisms are known as communicable diseases. The disease-causing germs are called Pathogens. These disease can be avoided by proper vaccination, healthy food and hygenic surroundings.

**Question 1(d).**

Biting nails should be strictly avoided. Give reason.

**Answer:**

Nail biting may cause many disease as the dirt has many bacteria causing diseases. Nails should be cut from time to time to save from diseases.

**Question 1(e).**

Regular exercise and proper rest is a must. Give reason.

**Answer:**

Regular exercise keeps our body strong and immune to many diseases, rest refreshes our body.

**Question 1(f).**

Children eating more of fast food tend to suffer from obesity (overweight). Comment.

**Answer:**

Fast food like pizza, burger, patty, oily foods etc. have much carbohydrates and fats. Children eating these become more and more fat and gain weight soon as they do not do much of physical work.

**Question 1(g).**

How can we control spreading of diseases by mosquitoes and houseflies ?

**Answer:**

We can control spreading of diseases by mosquitoes and houseflies by using repellants, throwing garbage in covered bins, avoiding stagnation of water and checking breeding of these insects.

**2. Name the following:**

(a) A bacterial disease caused due to contaminated water

**Ans.** A bacterial disease caused due to contaminated water Cholera.

(b) A disease caused due to Plasmodium

**Ans.** A disease caused due to Plasmodium Malaria.

(c) A disease caused due to the bite of female Culex mosquito

**Ans.** A disease caused due to the bite of female Culex mosquito  
Elephantiasis.

(d) A viral disease spread by the bite of a dog

**Ans.** A viral disease spread by the bite of a dog Rabies/ Hydrophobia

(e) Two diseases caused due to deficiency of protein in the diet of a child.

**Ans.** Kwashiorkor and marasmus.

(f) Any three water-borne disease.

**Ans.** Amoebiasis, Cholera, Hepatitis A.

(g) A viral disease caused due to unhealthy sexual contact

**Ans.** A viral disease caused due to unhealthy sexual contact AIDS.

(h) A disease caused due to choking of coronary artery

**Ans.** A disease caused due to choking of coronary artery Atherosclerosis.

### 3. Write short (1-2 sentences) notes on the following:

Disease, immunisation, pathogen, allergy, AIDS.

**Answer:**

1. **Disease:** Disease is a departure from normal health due to structural or functional disorder of the body. Disease may be due to deficiency of nutrients or malfunctioning of organs or genetic disorders, improper metabolic activity, or allergies, or cancer and mental illness as diabetes, haemophilia, leukemia, schizophrenia.
2. **Immunisation:** It means, we make the body immune to certain diseases by introducing respective weakened germs into the body. Thus we develop resistance to the concerned disease this process is called immunisation. The germs or the material introduced into the body to make it resistant to the concerned disease is called vaccine. This produces antibodies in the body of the person and the person can be saved by these antibodies. The vaccine can be given by the injection or orally as polio drops, tap vaccine for typhoid, BCG vaccine for tuberculosis.
3. **Pathogens:** The germs that cause diseases to human beings and to other animals and plants are called pathogens. They spread the diseases from person to person or through the air or through the articles of the diseased persons. Pathogens may be different kinds of bacteria, viruses, fungi, protozoans or worms.  
**Allergy:** Allergy is an unpredictable reaction to a particular substance. This type of substance is called allergen. Different people are allergic to different substances. A few common allergens are dust, spores, pollen, certain clothes, particular cosmetics, etc. The common areas of the body parts which are affected by allergies are skin, respiratory and digestive tracts. Asthma, eczema, diarrhoea, vomiting, nausea, etc. are some of the common allergic reactions.
4. **AID'S (Acquired Immune Deficiency Syndrome):** It is a viral disease caused by the virus called HTV (Human immunodeficiency virus) This virus makes the defence mechanism of the human body very weak. The immune system in the body as W.B.C. becomes weak. Thus the person catches the infectious diseases very easily. This disease spreads through sexual contact as one of the partner

may be carrier of the disease. It may spread through the blood transfusion and infected syringes, blades of the barbers, it may infect the developing baby through the blood by the mother. It is very deadly disease.

**4. Fill in the blanks by selecting suitable words given below: (clotting, goitre, insuline, rickets, iron, proteins)**

1. Anaemia is caused due to the deficiency of **iron**
2. Deficiency of Vit. D causes **rickets** in children.
3. Deficiency of iodine in the diet may cause **goitre**.
4. Kwashiorkor is caused due to the deficiency of **proteins**
5. Diabetes is caused due to undersecretion of **insulin**.
6. Haemophilia is a disease caused due to slow **clotting** of the blood.

**5. Find the odd one out:**

(a) Typhoid, cholera, jaundice, tuberculosis, tetanus.

Ans. Jaundice is odd one

(b) Cold, malaria, measles, mumps.

Ans. Malaria is odd one.

(c) Scurvy, rickets, polio, pellagra, nightblindness.

Ans. Haemophilia is odd one.

(d) Proteins, carbohydrates, fats, minerals, cancer.

Ans. Cancer is odd one.

**6. Fill in the blank in the following table:**

| Vitamin           | Name of the deficiency diseases                   | Source of vitamin | Function of vitamin |
|-------------------|---|-------------------|---------------------|
| (a) Vitamin A     | .....   | .....             |                     |
| (b) .....         | <b>Beri-beri</b>                                  | .....             |                     |
| (c) Ascorbic acid | .....   | .....             |                     |
| (d) .....         | <b>Rickets (in childhood)<br/>bones turn soft</b> | .....             |                     |

**Answer:**

| <b>Vitamin</b>                   | <b>Name of the deficiency diseases</b> | <b>Source of vitamin</b>                                | <b>Function of vitamin</b>                       |
|----------------------------------|--|---|--|
| (a) Vitamin A                    | <i>Night blindness</i>                 | <i>Carrot, fish milk, yellow fruits.</i>                | <i>Growth of hair, skin</i>                      |
| (b) <i>Vitamin B<sub>1</sub></i> | Beri-beri                              | <i>Eggs, nuts, legume</i>                               | <i>Carbohydrate metabolism.</i>                  |
| (c) Ascorbic acid                | <i>Scurvy (bleeding gums)</i>          | <i>Citrus fruits, tomatoes</i>                          | <i>Develops immunity</i>                         |
| (d) <i>Vitamin D</i>             | Rickets (in childhood) bones turn soft | <i>Sun light, milk, butter fish liver oil, egg yolk</i> | <i>Controls, calcium phosphorus, metabolism.</i> |

7. Given below is a crossword puzzle. Read the clues across and clues down, and fill up the blank squares. Check up your performance with the correct solution given at the end.

**Clues across**

1. Category of pathogen that causes diseases, like common cold and mumps.
5. This is the vaccine for preventing tuberculosis.
6. An organ usually affected by tuberculosis.
7. Jumbled spelling of one of the most common insect which visits our exposed foods and contaminates them.
8. Cover this part of your body by a handkerchief while sneezing to prevent droplet infection to others.
9. These may readily grow in your hair, if you do not wash it regularly.
10. A disease that weakens body's defence system against infections.

|                |                 |                |                |   |              |              |
|----------------|-----------------|----------------|----------------|---|--------------|--------------|
| <sup>1</sup> V |                 | <sup>2</sup>   | U              |   | <sup>3</sup> | <sup>4</sup> |
|                |                 |                |                |   | A            | O            |
|                |                 | <sup>5</sup> B |                |   | U            |              |
|                |                 |                | <sup>6</sup> L |   |              | G            |
| <sup>7</sup> I | S               |                | F              |   |              | H            |
| <sup>8</sup>   |                 | S              |                |   | I            |              |
| E              |                 |                | <sup>9</sup>   | I | C            |              |
|                | <sup>10</sup> A |                | D              |   | E            |              |

**Answer:**

**Clues down**

1. Germ or germ-substance introduced into the body to prevent occurrence of an infectious disease.
2. A disease caused by an infected dog, and which affects the central nervous system.
3. A disease in which the eyes, the skin and the urine turn yellow.
4. The disease pertussis is popularly known as whooping

|                |                 |                |   |                |                |                |
|----------------|-----------------|----------------|---|----------------|----------------|----------------|
| <sup>1</sup> V | I               | <sup>2</sup> R | U | S              | <sup>3</sup> J | <sup>4</sup> C |
| A              |                 | A              |   |                | A              | O              |
| C              |                 | <sup>5</sup> B | C | G              | U              | U              |
| C              |                 | I              |   | <sup>6</sup> L | U              | N              |
| <sup>7</sup> I | S               | E              | F | L              |                | D              |
| <sup>8</sup> N | O               | S              | E |                |                | I              |
| E              |                 |                |   | <sup>9</sup> L | I              | C              |
|                | <sup>10</sup> A | I              | D | S              |                | E              |

### Long Answer Questions

#### Question 1.

Describe the ways in which communicable diseases are transmitted through various

indirect methods.

**Answer:**

**Indirect methods of transmission of communicable diseases:**

**1. Using items used by the infected persons:**

The healthy persons may be infected by using the articles like towel, handkerchief, utensils, bedding used by the patient infected by the communicable diseases. Diseases like tuberculosis, ring worm, common cold, influenza are transmitted by this method.

**2. Contaminated food and water:**

Diseases like dysentery, cholera spread through the contaminated food and water. Flies sitting on the food, if taken by a healthy person may be infected by the germs which may cause vomiting and loose motions. Similarly water and food infected by entamoeba may cause dysentery to persons who may take contaminated food.

**3. Vectors or carriers:** Organisms like mosquitoes and house flies, ticks carry germs from the source of infection and pass on the germs to the normal persons and thus they are infected by diseases like malaria, cholera, plague. These organisms which carry the disease are called vectors and are not infected themselves. Mosquitoes suck blood and carry the disease causing protozoans from infected persons to healthy persons. Similarly houseflies carry the germs from garbage and sewage to the food. If this food is taken by the persons they become prey to typhoid and other diseases.

**4. Air:** One sneeze from a person infected by cold may give billions of germs which are carried by air and may infect the healthy person. Tuberculosis passes from one person to other by coughing or sneezing of the infected person. These germs remain suspended in the air and persons may be infected by these spores or germs. Common cold, measles, diphtheria, chicken pox.

**Question 2.**

List 3 ways by which you should keep your environment clean.

**Answer:**

**We should keep our environment clean in following ways:**

**Cleanliness of Environment:**

1. Maintain a clean environment to prevent the spreading of diseases due to the breeding of mosquitoes, house flies and microorganisms.
2. Garbage should be kept in covered bins so that flies do not breed on it.
3. Do not allow water to stagnate outside your house and in your neighbourhood. All the drains should also be covered. This will prevent breeding of mosquitoes.

**Question 3.**

vacines are prepared, giving the name of one disease for which each type of vaccine is used.

**Answer:**

For developing resistance in the body we introduce germs or germ substances in the body to develop resistance in the body against a particular disease. The material



introduced into the body is called vaccine, this practice is called prophylaxis. The germ or the germ substance is put into the body orally as polio drops or it is introduced by injection as TAB vaccine. Vaccine or vaccination was attached with small pox, but it is now used in a general sense.

### **Preparation:**

1. Killed germs are introduced into the body These act as vaccine for TAB, vaccine for typhoid, Salk's vaccine for poliomyelitis. Rabies vaccine for dog bite.
2. **Living weakened germs:** The living germs are treated in such a way that they become very weak and as such, they cannot cause the disease. They can induce antibody formation such as the vaccine for measles and the freeze-dried BCG vaccine for tuberculosis.
3. **Living fully virulent germs:** These virulent germs in small doses are introduced into the body as vaccine and these produce antibodies in the body and these do not allow the germs of particular type to cause that disease. In this vaccination the person is inoculated with cowpox virus. It is very similar to small pox virus.
4. **Toxoids:** Toxoids are prepared from the extracts of toxins secreted by bacteria. These toxins are poisons and these are made harmless by adding formalin into them. They retain their capacity and as a result when introduced into the body they produce antibodies into the body and do not allow the germs to grow in the body as vaccines for diphtheria and tetanus.

### **ADDITIONAL QUESTIONS**

#### **I. Multiple choice questions. Tick (✓) the correct choice:**

**1. Which of the following is a disease caused by bacteria?**

- (a) cholera
- (b) AIDS
- (c) malaria
- (d) rabies

**2. Which of the following is not a viral disease?**

- (a) pneumonia
- (b) measles
- (c) polio
- (d) rabies

**3. Ringworm is a disease caused by**

- (a) protozoa
- (b) bacteria
- (c) virus
- (d) fungi

**4. Kwashiorkor is caused by**

- (a) smoking
- (b) worms
- (c) virus
- (d) imbalance in diet**

**II. Fill in the blanks:**

1. Over-eating causes a disease called **obesity**.
2. Food poisoning is caused by **bacteria**.
3. One of the diseases caused by protozoa is **malaria**.

**III. Find the odd one out, giving reason:**

1. Pneumonia, cholera, leprosy, measles

**Answer:**

**Measles:** Measles is the odd-one out as it is a disease caused by a virus while the rest three are bacterial diseases.

**IV. Define the following:**

1. Diseases
2. Malnutrition

**Answer:**

1. **Diseases:** Any disorder or abnormal working of an organ, part or system of the body leads to illness called as disease.
2. **Malnutrition:** The condition of nutrition in which the food is either in inadequate quantity or in excess or it lacks in some essential nutrient is called malnutrition.

**V. Name the following:**

**Question 1.**

Two diseases each caused by bacteria, protozoa and virus.

**Answer:**

Two diseases caused by bacteria are pneumonia and cholera. Two diseases caused by protozoa are malaria and amoebiasis. Two diseases caused by viruses are chicken pox and AIDS.

**Question 2.**

Organism which causes malaria.

**Answer:**

Protozoa (called Plasmodium).

**Question 3.**

Cause of obesity.

**Answer:**

Excess of food (overnutrition).

**VI. Answer the following questions :**

**Question 1.**

List the causes of diseases.

**Answer:**

**Diseases develop due to a number of causes such as:**

1. Imbalances in the diet.
2. Infection by micro-organisms.
3. Malfunctioning of body organs.
4. Allergic reactions to substances in the environment.
5. Social factors such as smoking, alcoholism, drug addiction, unhealthy life style.

**Question 2.**

What are deficiency diseases?

**Answer:**

The diseases caused by inadequate intake of food or the lack of some essential nutrient in our diet are called deficiency diseases

**Question 3.**

Differentiate between undernutrition and malnutrition.

**Answer:**

**undernutrition**

1. It is a condition of nutrition where food is inadequate.
2. It leads to deficiency diseases.
3. Under nutrition is a form of malnutrition

**Malnutrition**

1. It is condition of nutrition where food is either inadequate, or excess or lacks some essential nutrient.
2. It leads to deficiency diseases and obesity.
3. Malnutrition has many forms like under nutrition, over-nutrition or imbalance of nutrients in diet.

**DEFICIENCY DISEASES**

**I. Multiple choice questions. Tick (✓) the correct choice:**

**1. Kwashiorkor is a disease caused by**

- (a) microbes
- (b) deficiency of nutrients**
- (c) environment
- (d) defects in body organs

**2. Deficiency of vitamin C causes**

- (a) scurvy**
- (b) beri-beri
- (c) rickets
- (d) skin diseases

**3. Deficiency of vitamin K can cause**

- (a) haemorrhage**
- (b) bleeding gums
- (c) rickets
- (d) skin diseases

**II. Fill in the blanks:**

1. Protruding belly is a symptom noticed in **kwashiorkor**.
2. The disease kwashiorkor results from the deficiency of **proteins**.
3. The mineral **fluorine** is responsible for tooth decay

**III. Find the odd one out, giving reasons:**

1. Kwashiorkor, scurvy, beri-beri, night blindness.
2. Goitre, tooth decay, anaemia, rickets.

**Answer:**

1. **Kwashiorkor:** Kwashiorkor is the odd-one out as it is a protein deficiency disease while the rest three are vitamin deficiency diseases.
2. **Rickets:** Rickets is the odd-one out as it is a vitamin deficiency disease while the rest three are mineral deficiency diseases.

**IV. Name the following:**

**Question 1.**

Three vitamin-deficiency diseases.

**Answer:**

1. Night blindness (due to deficiency of Vitamin A).
2. Scurvy (due to deficiency of Vitamin C).

3. Rickets (due to deficiency of Vitamin D).

**Question 2.**

Three mineral-deficiency diseases.

**Answer:**

1. Anaemia (due to deficiency of iron).
2. Goitre (due to deficiency of iodine).
3. Tooth decay (due to deficiency of fluorine).

**V. Mention the food constituents which may be lacking in one's diet, in case of the following:**

1. A child having rickets.
2. A person suffering from scurvy.
3. A person suffering from beri-beri.
4. A child suffering from kwashiorkor.
5. A person suffering from poor eyesight.
6. A person suffering from anaemia.

**Answer:**

1. Vitamin D and calcium.
2. Vitamin C.
3. Vitamin B.
4. Protein and energy giving carbohydrates.
5. Vitamin A.
6. Iron.

**VI. Match the items in Column A with those in Column B:**

| <b>Column A</b>           | <b>Column B</b>                  |
|---------------------------|----------------------------------|
| <b>1. Beri-beri</b>       | <b>(a) Vitamin C</b>             |
| <b>2. Anaemia</b>         | <b>(b) Vitamin D</b>             |
| <b>3. Scurvy</b>          | <b>(c) Vitamin A</b>             |
| <b>4. Rickets</b>         | <b>(d) Vitamin B<sub>1</sub></b> |
| <b>5. Goitre</b>          | <b>(e) Iron</b>                  |
| <b>6. Night blindness</b> | <b>(f) Iodine</b>                |

**Answer:**

**Column A**

1. Beri-beri
2. Anaemia
3. Scurvy
4. Rickets
5. Goitre
6. Night blindness

**Column B**

- (d) Vitamin B<sub>1</sub>
- (e) Iron
- (a) Vitamin C
- (b) Vitamin D
- (f) Iodine
- (c) Vitamin A

**VII. Answer the following questions:****Question 1.**

What is meant by PEM? Name the diseases caused by PEM.

**Answer:**

PEM (Protein energy malnutrition) is a term used to describe diets which lack proteins and energy giving carbohydrates. They are common among children. Kwashiorkor and marasmus are diseases which result from PEM.

**Question 2.**

Give the symptoms of kwashiorkor and marasmus.

**Answer:****Symptoms of kwashiorkor:**

1. Protruding belly.
2. Dark and scaly skin.
3. Brownish hair.
4. Stunted growth; underweight.
5. Swollen legs due to water accumulation.
6. Anaemia.
7. Mental retardation.
8. Reduced immunity.
9. Loss of appetite.
10. Loss of appetite

**Symptoms of Marasmus:**

1. Poor muscle development.
2. Bones showing through skin, no fat.
3. Weak legs.
4. Anaemia.
5. Grossly underweight.
6. Mental retardation.
7. Reduced immunity.
8. Loss of appetite.

**Question 3.**

Why should we not eat polished rice?

**Answer:**

Polished rice is an example of 'processed' food. Processing removes many of the Vitamin B's. Beri-beri is caused by the lack of Vitamin B,. Therefore, we should not eat polished rice

**MICROORGANISMS AND DISEASES**

**I. Multiple choice questions. Tick (✓) the correct choice:**

**1. Which of the following diseases is spread through coughing and sneezing?**

- (a) **Diphtheria**
- (b) Hepatitis
- (c) Tetanus
- (d) Polio

**2. Which of the following diseases is transmitted by a carrier?**

- (a) **Dengue**
- (b) Tetanus
- (c) Hepatitis
- (d) Common cold

**3. Which of the following diseases is spread through infected rats?**

- (a) Hepatitis
- (b) Dengue
- (c) **Plague**
- (d) Common cold

**4. Which of the following is a non-infectious disease?**

- (a) Cholera
- (b) Typhoid
- (c) **Diabetes**
- (d) Plague

**5. A disease spread by the bite of a mad dog is**

- (a) **Rabies**
- (b) Plague
- (c) Polio
- (d) Measles

**II. Define the following:**

1. Pathogen
2. Vector
3. Droplet infection
4. Infectious diseases

**Answer:**

1. **Pathogen:** The microbes that cause disease are called pathogens. Example : Bacteria, virus, etc.
2. **Vector:** A vector is an organism that carries disease causing microbes (pathogens) from one host to another. They are the carriers of infection. Example: Mosquito, housefly, etc.
3. **Droplet infection:** Droplet infection is an infection transmitted from one individual to another by droplets of saliva or nasal moisture during coughing, sneezing, speaking and spitting.
4. **Infectious diseases:** The diseases which spread from an infected person to a healthy person through air, water, food, soil or physical contact are called communicable diseases.  
Example : Common cold, chickenpox, etc.

**III. Mention the causal organisms of the following diseases:**

1. Cholera
2. Tuberculosis
3. Common cold
4. Chickenpox
5. Typhoid
6. Polio
7. Rabies

**Answer:**

1. Cholera — Bacteria
2. Tuberculosis — Bacteria
3. Common cold — Virus
4. Chickenpox — Virus
5. Typhoid — Bacteria
6. Polio — Virus
7. Rabies — Virus

**IV. Answer the following questions:**

**Question 1.**

What are communicable diseases? Name three such diseases.

**Answer:**

Diseases which spread from an infected person to a healthy person are called communicable or infectious diseases. These diseases are caused through infections by



microbes called pathogens.

Example: Cholera, typhoid, cold, malaria, AIDS.

### Question 2.

List the different ways by which communicable diseases are transmitted.

#### Answer:

Communicable diseases are transmitted broadly by two modes:

1. **Direct transmission:** It is by
  - **Direct contact:** From skin to skin. Examples: eye infection (conjunctivitis), skin diseases, etc.
  - **Droplet infection:** From droplet of saliva or nose during cough, sneezing, speaking and spitting. Examples: Tuberculosis (TB), common cold, whooping cough, influenza.
  - **Contact with soil.** Example: mycosis, tetanus.
  - **Inoculation into skin:** Microbes may inoculate directly into skin. Examples: Rabies virus is inoculated by dog bite, hepatitis B virus is inoculated through contaminated needles and syringes.
2. **Indirect transmission:** It is by
  - Transmission of microbes through water and food (vehicle borne transmission).  
Examples: typhoid, cholera, polio, food poisoning, diarrhoea etc.
  - Transmission by blood. Examples: Hepatitis B and malaria
  - Transmission of microbes by an arthropod/living carrier (vector borne).  
Examples: malaria, dengue are transmitted by mosquito, typhoid, cholera are transmitted by housefly, plague is transmitted by rat flea, etc.
  - Transmission through fomites: Fomites include soiled clothes, towel, cups, spoon, toys, etc.  
Examples: diphtheria, eye and skin infection.
  - Transmission through unclean hands. Examples: typhoid, intestinal parasites.
  - Air borne transmission. Examples: epidemic typhus.

### Question 3.

Differentiate between communicable and non-communicable diseases.

#### Answer:

##### Communicable diseases

1. Diseases which spread from one person to another.
2. These are also called as infectious diseases.
3. These diseases are caused by microbes called pathogens.
4. **Examples:** AIDS, cholera, cold, mumps, typhoid etc.

##### Non-communicable diseases

1. Diseases which do not spread from person to person and remain confined to the diseased person.
2. These are also called as non-infectious diseases.
3. These diseases are not caused by microbes.
4. **Examples:** allergy, diabetes, anaemia, etc.

## **DISEASES DUE TO MALFUNCTIONING OF BODY ORGANS, FIRST AID MEASURES AND HYGIENE**

### **I. Multiple choice questions. Tick (✓) the correct choice:**

#### **1. Malfunctioning of pancreas causes**

- (a) diabetes**
- (b) arthritis
- (c) cataract
- (d) goitre

#### **2. First vaccine was produced by**

- (a) Pasteur
- (b) A. Fleming
- (c) Jenner**
- (d) Robert Hooke

#### **3. Cataract is a disease of the**

- (a) heart
- (b) eye**
- (c) kidney
- (d) pancreas

### **II. Fill in the blanks:**

1. The disease caused by the bite of a mad dog is **rabies**.
2. Diseases of heart and kidney are due to **malfunctioning of body organs**.
3. Uremia is caused due to the malfunctioning of **kidney**.

### **III. Find the odd one out, giving reasons:**

1. Diabetes, arthritis, cataract, obesity.

#### **Answer:**

**Obesity:** Obesity is the odd one out as it is caused by imbalance in diet (over-nutrition) while the rest three are the diseases due to malfunctioning of body organs.

### **IV. Define the following:**

1. Vaccination
2. Immunisation
3. Immunity
4. Vaccine.
5. Pathogen
6. Atherosclerosis

**Answer:**

1. **Vaccination:** Vaccination is a method of making the body immune to a particular disease by injecting killed or weakened disease causing microbe into a body to stimulate the formation of antibodies and develop immunity to that disease causing microbe.
2. **Immunisation:** Immunisation is body's natural defence mechanism which acts by producing antibodies against the antigens infecting the body.
3. **Immunity:** The ability of an organism to resist and overcome infection is called immunity.
4. **Vaccine:** A vaccine is a biological preparation of a weakened or killed pathogen (disease causing microbes) which stimulates the formation of antibodies and develops immunity against a particular disease.
5. **Pathogen:** Any organism that is capable of causing disease is called a pathogen. Examples : bacteria, virus or other microorganism.
6. **Atherosclerosis:** Atherosclerosis is a disease caused by the malfunctioning of heart wherein the arterial walls get hardened and thickened, reducing the flow of blood and raising the blood pressure.

**V. Answer the following questions:**

**Question 1.**

Write, in brief, about the following:

- (a) Fever
- (b) Allergy
- (c) First-aid measures in case of cuts, burns, bites and stings.

**Answer:**

**(a) Fever:** Fever is the most common symptom of an infection in the human body. The body temperature rises above the normal i.e., 37°C (98.6°F). Fever might be associated with pain in the body, headache and tiredness. Rest, light diet, fluids and medicines help in reducing fever.

**(b) Allergy:** Allergy is an excessive sensitivity of the human body to some substances which are otherwise harmless. The allergens include dust, pollen grains, spores, furs, etc. Asthma and hay fever are examples of allergies. Rashes, itching, wheezing and sneezing are common symptoms of allergy.

**(c) First-aid in case of cuts:** Cut area should be cleaned and washed with warm water. Foreign matter, if any, should be removed. Wound area be raised above the heart level and bandage to be put after the blood flow stops.

1. **First-aid in case of burns:** Hold the burnt area under cold running water in first and second degree burns for 15 minutes. Wash with soap and leave uncovered. Give the tetanus injection. In case of third-degree burns, cover the burnt with dry, sterile dressing and contact the emergency medical services.
2. **First-aid in case of bites:** Hold the bite area under cool running water for 15 minutes. Wash with soap and water. Rinse again. Dry the area, elevate the bite area above the heart level for 8 hours and give a tetanus injection. In case of a snake bite, run water over the bite, mb powdered potassium permanganate and put a piece of cloth tightly around the area to prevent the poison from reaching heart and other body parts.
3. **First-aid in case of stings:** Remove the sting with tweezers. Wash the area with soap and cold water, apply oil or vaseline, cover with sterile gauze. If swelling, apply ice. Keep the stung area above the heart.

### Question 2.

What would you do to lead a healthy life?

**Answer:**

**Personal hygiene is very important to lead a healthy life. It can be done by:**

1. **Proper diet:** Balanced diet is very important.
2. **Sleep:** Adequate sleep of 6-8 hours a day.
3. **Regular exercise:** Sufficient physical activity.
4. **Cleanliness:** Keeping the body clean to prevent infections.
5. **Proper lifestyle:** Junk foods, long hours of table work, late night sleeps etc. should be avoided to lead a healthy life.

### Question 3.

What steps would you take to prevent and control diseases?

**Answer:**

**Prevention and control of diseases can be done by:**

1. Proper sanitation.
2. Provision of safe and clean water supply in adequate quantity.
3. Spray of insecticides to prevent mosquito breeding
4. Personal hygiene which includes proper diet, sleep, regular exercise, cleanliness and healthy lifestyle.
5. Immunisation (vaccination).
6. Health education.

### Question 4.

Mention the contributions of

1. Edward Jenner and
2. Louis Pasteur.

**Answer:**

1. Edward Jenner was the first to develop the technique of vaccination in 1798.
2. Louis Pasteur established that many diseases were caused by microbes and he demonstrated the principle of immunisation, vaccines and antibodies.

**Question 5.**

What is diabetes? What are the symptoms?

**Answer:**

Diabetes is a disease caused by the malfunctioning of pancreas in the body. When enough insulin is not produced by pancreas, the sugar levels rise in the blood and urine. Symptoms of diabetes include excessive thirst, frequent urination at night, loss of weight and fatigue.

**Question 6.**

What is atherosclerosis? Name the organs which are affected in this disease.

**Answer:**

Atherosclerosis is a disease caused by the malfunctioning of circulatory system in the body. The arterial walls get hardened and thickened, reducing the flow of blood. This raises the blood pressure.

**Question 7.**

How does vaccination prevent diseases?

**Answer:**

A vaccine contains a killed or weakened disease causing microbe that is responsible for infection. Because the germ is killed, it cannot make the person sick. When a person receives a vaccine, the body reacts by producing antibodies in defence. The antibodies remain in the blood for long and destroys the germs of a particular disease. In other words, vaccines expose people safely to germs so that they can fight with the same germs in future against its specific disease.

**CHAPTER ASSIGNMENT**

**I. Which of the following statements are true (T) and which ones are false (F)?**

**Mark T or F:**

1. AIDS is caused by a bacterium.  
**False.** AIDS is caused by a virus.
2. Sneezing is an example of droplet infection.  
**True.**
3. Malaria is a vector-borne disease.  
**True.**
4. Atherosclerosis is a disease of the liver.  
**False.** Atherosclerosis is a disease of the heart.

5. Filariasis is caused by worms. .  
**True.**

**II. Give differences between the following:**

1. First degree burn and second degree burn

**Answer:**

**First degree burn**

1. It effects the skins outermost layer.
2. It is less severe.
3. There are no blisters. Just redness and swelling.
4. This is also called a superficial bum.
5. They are dry.
6. They heal on their own in a week or so.
7. **Example:** Ordinary sunburn.

**Second degree burn**

1. It effects epidermis and dermis of the skin.
2. It is more severe and painful.
3. The skin becomes red and has blisters.
4. This is also called as partial thickness bum.
5. They are moist.
6. They might need medical attention and heal in 2-3 weeks.
7. **Example:** Blisters formed by hot oil accidentally.

**III. Answer the following questions:**

**Question 1.**

Give the first aid measures in case of second degree bums.

**Answer:**

**First-aid in case of second degree bums:**

1. Hold the burnt area under cold running water for 15 minutes.
2. Do not break the blisters.
3. Wash the area with mild soap and water.
4. Dry and put an antibiotic oinment.
5. If blisters have not broken open, leave the area uncovered.
6. If blisters have broken open, bandage is needed.

**Question 2.**

Name three commonly used vaccines.

**Answer:**

**Three commonly used vaccines are:**

1. BCG for tuberculosis.
2. Salk vaccine for polio.
3. DPT for diphtheria, pertussis (whooping cough) and tetanus.

**Question 3.**

How vaccination helps to prevent diseases?

**Answer:**

A vaccine contains a killed or weakened disease causing microbe that is responsible for infection. Because the germ is killed, it cannot make the person sick. When a person receives a vaccine, the body reacts by producing antibodies in defence. The antibodies remain in the blood for long and destroys the germs of a particular disease. In other words, vaccines expose people safely to germs so that they can fight with the same germs in future against its specific disease.

**Question 4.**

Why should you not allow water to stagnate near your house?

**Answer:**

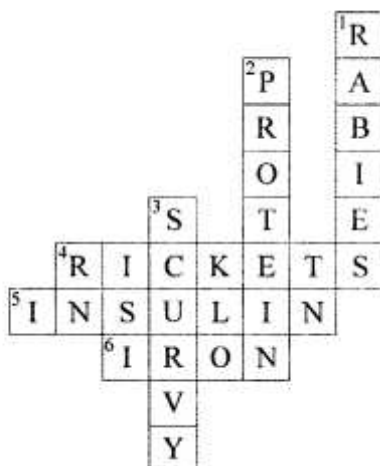
**We should not allow water to stagnate near our house because:**

1. Stagnant water is a breeding place for several mosquitoes which are carriers of many diseases like malaria and dengue.
2. It starts growing alga, etc. and stinks and rots the ground.

**IV. Crossword Puzzle DOWN**

1. A disease caused due to the bite of a mad dog. (6)
2. Kwashiorkor and marasmus are caused due to the deficiency of this food component. (7)
3. A disease causing bleeding gums. (6)ACROSS
4. A disease due to deficiency of vitamin D. (7)
5. Diabetes is caused due to deficiency of this hormone.(7)
6. The deficiency of this mineral causes anaemia. (4)

**Answer:**



- **DOWN**
  1. Rabies
  2. Protein
  3. Scurvy
- **ACROSS**
  4. Rickets
  5. Insulin
  6. Iron

## SOME MORE USEFUL QUESTIONS

### Question 1.

Obesity can lead to many problems. Name them.

#### Answer:

Obesity can lead to heart disease, high blood pressure and diabetes.

### Question 2.

What does deficiency of carbohydrates lead to?

#### Answer:

**Deficiency of carbohydrates leads to:**

1. Body weakness.
2. Loss of stamina.

### Question 3.

What are antibiotics?

#### Answer:

Antibiotics are chemical substances that kill or stop the growth of microbes, thereby helping the body to fight diseases.

Eg. penicillin.

### Question 4.

Who discovered the first antibiotic?

#### Answer:

The first antibiotic, Penicillin, was discovered by Alexander Fleming.

### Question 5.

Give examples of diseases caused by:

1. Fungus
2. Insect bite
3. Ingesting infected food and water
4. Pollution/allergy



**Answer:**

1. Food poisoning and ringworm.
2. Malaria and dengue.
3. Cholera and typhoid.
4. Asthma and hay fever.
5. Ascariasis and filariasis.

**Question 6.**

Name two diseases caused by animal bites.

**Answer:**

1. Rabies by dog bite.
2. Snake poisoning by snake bite.

**Question 7.**

Name few contact infections.

**Answer:**

Skin diseases, lice, chicken pox, conjunctivitis.

**Question 8.**

What bad habits can lead to bad health?

**Answer:**

1. Lack of personal hygiene.
2. Lack of exercise.
3. Addiction to fast food, drugs, tobacco, alcohol etc.
4. Poor sanitation.

**Question 9.**

Name few vectors and diseases caused by them.

**Answer:**

Mosquito – malaria, dengue, filaria.

Housefly – typhoid, cholera, polio.

Sandfly – kalaazar. –

Rat flea – plague.

**Question 10.**

Name the vitamin and mineral whose deficiency causes rickets.

**Answer:**

Deficiency of calcium and vitamin D causes rickets.

**Question 11.**

Name the nutrient lacking in one7s diet it a person suffers from

1. Haemorrhage
2. Dehydration
3. Paralysis
4. Tooth decay
5. Skin diseases

**Answer:**

1. Vitamin K
2. Sodium
3. Potassium
4. Vitamin D and fluorine
5. Vitamin B2

**Question 12.**

Who gave the 'germ theory of disease'?

**Answer:**

Louis Pasteur.

**Question 13.**

How can microorganisms enter our body?

**Answer:**

1. Through the air we inhale.
2. Through the water we drink.
3. Through the food we eat.
4. Through skin.

**Question 14.**

What is conjunctivitis?

**Answer:**

Conjunctivitis is a viral disease of the eye which is highly infections i.e., spreads from one person to another very fast.

**Question 15.**

Name few diseases which are transmitted by air.

**Answer:**

Common cold, chicket pox, tuberculosis, measles.

**Question 16.**

What are degenerative diseases? Why do they occur?

**Answer:**

Diseases due to malfunctioning of body organs are called degenerative diseases. Malfunctioning of body organs occurs due to 'wear and tear' and ageing of body.

**Question 17.**

Name few diseases caused by malfunctioning of body organs.

**Answer:**

1. Malfunctioning of pancreas causes diabetes.
2. Malfunctioning of eyes causes cataract. .
3. Malfunctioning of bones cause arthritis.
4. Malfunctioning of kidneys cause uremia.
5. Malfunctioning of heart causes coronary heart disease and atherosclerosis.

**Question 18.**

Which body part produces insulin?

**Answer:**

Islets of Langerhans present in pancreas produce the hormone insulin.

**Question 19.**

What are coronary heart diseases?

**Answer:**

Coronary heart diseases are diseases due to malfunctioning of heart wherein the blood supply to the heart muscles reduces leading to reduced supply of oxygen to it. This can lead to a temporary pain in the chest. Hardening of arteries which supply blood to the heart muscles cause this disease.

**Question 20.**

Name a disease which causes opaque eye lens and hence blindness.

**Answer:**

Cataract.

**Question 21.**

What is rabies?

**Answer:**

Rabies is a viral disease caused by the bite of a rabid dog or monkey or rabbit. Saliva of the infected animal causes the rabies infection.

**Question 22.**

What are antibodies?

**Answer:**

Antibodies are substances (proteins) which are produced by our body to attack the foreign bodies and they protect the host from disease.

### 23. Fill in the blanks:

1. Malfunctioning of **kidneys** can lead to accumulation of toxic substances in the body.
2. Lack of insulin may lead to **diabetes**.
3. A **disease** is opposite to health.
4. Intake of inadequate or excess food or unbalanced diet leads to **malnutrition**.
5. Diseases due to infection by microorganisms are called **communicable diseases**.
6. **Louis Pasteur** proved that microbes cause diseases
7. Inflammation of joints result in **arthritis**.

### Question 24.

Give a brief note on body's natural defence mechanism to overcome diseases.

#### Answer:

1. The skin acts as a barrier to the entry of microbes.
2. Tiny hair and mucous in the nose trap dust and microbes.
3. Digestive juices in the stomach kill microbes which enter the body.
4. White blood cells in the blood destroy the microbes.
5. Immune system produces antibodies against foreign particles.

### Question 25.

List few precautions taken to maintain personal hygiene and cleanliness.

#### Answer:

1. Wash your hands before and after meals.
2. Brush your teeth twice a day.
3. Don't keep long nails.
4. Walking barefoot must be avoided.
5. Waste food material and garbage should be thrown in bins and covered properly.