

Chapter 15. Hygiene – A Key To Healthy Life

Exercise 1

Solution A.

1. (d) cholera
2. (d) Sharing towels with others
3. (d) *Plasmodium*
4. (c) Fluorides
5. (b) Bacteria

Solution B.1.

Column I	Column II
(a) Eggs	(iii) White cylindrical
(b) Adult	(i) Sucking proboscis
(c) Pupa	(ii) Barrel-shaped
(d) Larva	(iv) Legless

Solution B.2.

The different ways by which the housefly contaminates our food:

1. **Hairy body and legs:** Hairy or spiny body and legs easily pick up dirt containing germs from unhygienic places such as rotten materials, infected wound or faecal matter. When these flies sit on our food, they rub their legs continuously dropping the particles of dirt onto the food, thereby contaminating it.
2. **Pouring out saliva:** When the housefly pours its saliva or regurgitates on food, foodstuffs get moistened and pathogens get deposited on them. This results in their contamination.
3. **Excreta:** While feeding on food items, houseflies may deposit their excreta on food, contaminating it.
4. **Direct transmission of germs:** In some cases, houseflies directly transmit the pathogens. In case of eye disease trachoma, pathogens are transferred from an infected person to a healthy person, when a fly settled on an infected eye of a person sits on the eyes of a healthy person.

Solution B.3.

Two methods of controlling flies:

1. Spraying of insecticides
2. Elimination of breeding grounds

Solution B.4.

Effective methods for controlling mosquitoes:

1. Spraying insecticides
2. Food should be protected by covering it
3. Eliminating breeding places of mosquitoes

Solution C.1.

Kind of mosquito	Disease caused by it
<i>Anopheles</i>	Malaria
<i>Culex</i>	Filariasis

Solution C.2.

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Stages of life cycle	<i>Culex</i>	<i>Anopheles</i>
Egg	<p>Eggs have no air spaces and are laid in rafts.</p>  <p>eggs</p>	<p>Eggs have small air spaces on their either sides, which makes them buoyant.</p>  <p>Eggs</p>
Larva	<p>Larva floats obliquely with its head hanging downward.</p>  <p>larva</p>	<p>Larva floats parallel to the surface of water.</p> 
Adult	<p>Adult keeps its body more or less parallel at rest.</p>  <p>adult</p>	<p>Adult always rests with its straight body, making an angle against the surface.</p>  <p>Adult</p>

Solution D.1.

(i) One should breathe by nose and never by mouth because nose contains hair and mucous to trap dust and micro-organisms, so that the inhaled air becomes pure and the

respiratory passage is free of dust and micro-organisms.

(ii) We handle a variety of things like books, coins, furniture, tools and machinery in workshops, seats and supporting rods in buses and even pets and other domestic animals in our day-to-day life. Many of these objects carry germs. These germs can be picked up by us, when we touch these objects and get transferred to other parts of our body or into our mouth, when we eat our food. Therefore, it is necessary to wash our hands before eating food to avoid the spread of diseases caused due to these germs.

(iii) Flies are carriers of many disease-causing germs and bacteria. Therefore, eating places must be kept free of flies to avoid possible contamination of food.

Solution D.2.

Cockroaches and rats are common household pests.

1. Cockroaches are involved in spoiling food, paper and cloth. They may act as carriers of viruses, especially those which cause cancer.
2. Rats eat grains and other foods. They also act as carriers of certain pathogens. A parasite named rat-fleas lives on rat's skin. It possibly carries the germs of plague.

Solution D.3.

TYPE OF DYSENTERY	CAUSATIVE GERM	PRECAUTION
1. Bacillary dysentery	Bacterium: <i>Shigelladysenteriae</i>	Drinking safe (boiled) water
2. Amoebic dysentery	Protozoan: <i>Entamoebahistoltyica</i>	Avoiding contaminated water and food