Chapter 16. Diseases: Cause And Control

Exercise 1

Solution A.

1. (c) pandemic
2. (d) Bacillus
3. (d) AIDS
4. (c) Anopheles mosquito
5. (d) Entamoeba

Solution B.1.

(a) F (False). Filariasis is transmitted by the Culex mosquito.
(b) T (True)
(c) F (False). BCG vaccine is used for tuberculosis.
(d) F (False). Louis Pasteur discovered a cure for rabies.
(e) F (False). AIDS is caused by a virus.
(f) T (True)
(g) T (True)
(h) F (False). Chicken pox and hepatitis are viral diseases.
(i) T (True)
(j) F (False). AIDS is caused by HIV virus.
(k) T (True)
(l) F (False). Smallpox has been eradicated from India.
(m) F (False). The disease filariasis is caused by the filarial worm Wuchereria bancrofti.

Solution B.2.

AIDS : Acquired Immunodeficiency Syndrome

Solution B.3.

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

Solution C.1.

Infection: The transmission of disease from one person to another is called infection. 
Pathogen: Disease-causing micro-organism is called a pathogen. 
Incubation period: Incubation period is the period between the entry of germs and the appearance of the first symptoms of the disease.
Allergen: An antigenic substance capable of producing immediate hypersensitivity allergy is called an allergen.

Solution C.2.

The different ways in which infectious diseases can spread are as follows:

- **Direct contact**: Person to person, animal to person and expected mother to child
- **Indirect contact**: Doorknob, phone, etc.
- **Droplet transmission**: Sneezing, coughing, etc.
- **Particle transmission**: Air particles can transfer infectious diseases
- **Bites and Stings**: Mosquitoes, lice, ticks, etc.
- **Food Contamination**: Food, beverages, etc.

Solution C.3.

<table>
<thead>
<tr>
<th>NON-INFECTIOUS DISEASES</th>
<th>CAUSE OF THE DISEASE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asthma</td>
<td>Allergy</td>
</tr>
<tr>
<td>Cataract</td>
<td>Ageing</td>
</tr>
<tr>
<td>Beri-Beri</td>
<td>Nutritional deficiency</td>
</tr>
<tr>
<td>Cancer</td>
<td>Carcinogens like chemicals, tobacco smoking, pollution etc.</td>
</tr>
</tbody>
</table>

Solution C.4.

It is important to know how the germs leave the body of a patient as there are some diseases and infections which are transmitted through air, water or just by direct contact. Therefore, to take precautions and protect others from further infections, it is a must to know how the germs leave the body of an infected person.

Solution C.5.

Causative germ of AIDS:

HIV (Human immunodeficiency virus)

Transmission of AIDS:

(a) Sexual intercourse
(b) Mother to child transmission
(c) Contaminated blood transfusions

Solution D.1.

(a) BCG: It is a vaccine which is effective against the bacterial disease tuberculosis (TB). It develops immunity to TB. BCG stands for Bacillus Calmette Guerin.
(b) **Incubation period**: It is the period between the entry of germs and the appearance of the first symptoms of the disease. Example: Incubation period of pneumonia is 1-3 days.

(c) **Chicken pox**: It is a viral disease caused by the Herpes *Varicella zoster virus*. It spreads rapidly by close contact with an infected person. A live attenuated vaccine containing Varicella is administered to children of 12-18 months for active immunisation.

(d) **Hepatitis A**: It is a viral disease caused by Hepatitis A virus which results in inflammation of the liver. It has an incubation period of 14-45 days. It is mainly transmitted through contaminated food and water.

**Solution D.2.**

<table>
<thead>
<tr>
<th>Disease</th>
<th>Causative agent</th>
<th>Symptoms</th>
<th>Prevention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malaria</td>
<td>Protozoan, Plasmodium</td>
<td>Chills, high fever, profuse sweating, severe headache, nausea, vomiting, fatigue and body pain</td>
<td>Destruction of mosquitoes at all stages and avoid mosquito bites by using mosquito nets or repellents</td>
</tr>
<tr>
<td>Chicken pox</td>
<td>Virus, Varicellazoster</td>
<td>Highly irritating rashes near the chest and back, gradually spreading to the arms, legs, face and head</td>
<td>Active immunisation by administering live attenuated vaccine containing Varicella</td>
</tr>
<tr>
<td>Tuberculosis</td>
<td>Bacterium, Mycobacterium tuberculosis</td>
<td>Persistent cough, afternoon fever, bloody mucus, loss of weight, fatigue and chest pain</td>
<td>BCG vaccination and isolation of the patient</td>
</tr>
</tbody>
</table>