

# 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.

NON-INFECTIOUS DISEASES	CAUSE OF THE DISEASE
Asthma	Allergy
Cataract	Ageing
Beri-Beri	Nutritional deficiency
Cancer	Carcinogens like chemicals, tobacco smoking, pollution etc.

### 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.

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