

# CHAPTER 13

## Why Do We Fall Ill

### 1. OBJECTIVE QUESTIONS

1. Which of the following statements is incorrect about a cell?
- Cells are the basic units of living beings.
  - Cells cannot move from place to place.
  - The living cell is a dynamic place.
  - In cells that do not move, there is a repair going on.

**Ans :** (b) Cells cannot move from place to place. Some cells can move from one place to another.

2. Which one is an acute disease?
- Diabetes
  - Tuberculosis
  - Hypertension
  - Typhoid

**Ans :** (d) Typhoid  
Diseases that last for only very short period of time are called acute diseases. Typhoid is an acute disease.

3. Health can be defined as a state of
- being physically healthy
  - not being diseased
  - being physically healthy and disease-free
  - being well enough to function well physically, mentally and socially.

**Ans :** (d) being well enough to function well physically, mentally and socially.

The World Health Organization (WHO), in 1948, has defined health as “a state of complete physical, mental and social well-being, and not merely an absence of disease, or infirmity.”

4. Find an organ affected in the disease, Jaundice.
- Kidney
  - Liver
  - Pancreas
  - Leukemia

**Ans :** (b) Liver  
Liver is affected in the disease, Jaundice.

5. Which of the following diseases is not a congenital disease?
- Haemophilia
  - Sickle-cell anaemia
  - Down syndrome
  - Dengue

**Ans :** (d) Dengue  
Congenital diseases are anatomical abnormalities present since birth. For example haemophilia, colour blindness, sickle-cell anaemia, Down's syndrome, Turner's syndrome, etc. Dengue is acquired disease i.e., develops after birth.

6. Which of the following defines 'health'?
- Social well being
  - Physical fitness
  - Mental fitness
  - All of these

**Ans :** (d) All of these  
Health is a state of physical, mental and social well being.

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7. Who were awarded Nobel prize for discovering the causative organism of peptic ulcer?
- Alexander Fleming and Darwin
  - Barry Marshall and Leeuwenhoek
  - Fleming and Edward Jenner
  - Barry Marshall and Robin Warren

**Ans :** (d) Barry Marshall and Robin Warren  
Helicobacter pylori causes the disease peptic ulcer. It was discovered by Australian pathologist Robin Warren and young Australian clinical fellow, Barry Marshall. Both of them received the Nobel prize for physiology and medicine in 2005.

8. Which type of disease is 'Haemophilia'?
- An acute disease
  - A deficiency disease
  - A chronic disease
  - An congenital disease

**Ans :** (d) An congenital disease  
Haemophilia is a congenital disease.

9. Select the correct matches.

	Disease	Type
1.	Arthritis	Chronic
2.	Tuberculosis	Acute
3.	Cancer	Infectious
4.	Night blindness	Non-infectious

- 1 and 3
- 2 and 3
- 2 and 4
- 1 and 4

**Ans :** (d) 1 and 4  
Tuberculosis is a chronic disease and cancer is a non-infectious disease.

10. Which type of diseases affect the body suddenly but, last for a short time?
- Acute disease
  - Chronic disease
  - Congenital disease
  - Genetic disorder

**Ans :** (a) Acute disease  
Common cold is an acute disease. Acute disease lasts for only a short.

11. What do you mean by 'Congenital diseases'?

- (a) These are deficiency diseases.
- (b) These are present from time of birth.
- (c) These are spread from man to man.
- (d) These occur during lime time.

**Ans :** (b) These are present from time of birth.

Diseases that are present from birth are called congenital diseases. Congenital diseases are caused due to defective development of embryo or defective inheritance.

12. Which of the following is not a non-infectious disease?

- (a) High blood pressure
- (b) Cancer
- (c) Malaria
- (d) Diabetes

**Ans :** (b) Malaria

High blood pressure, cancer, diabetes, etc., are not caused by infectious agents whereas malaria is caused due to infection of a protozoa named Plasmodium vivax which is carried by the Anopheles mosquito.

13. Which disease is prevented by immunizing with BCG?

- (a) Pneumonia
- (b) Tuberculosis
- (c) Polio
- (d) Amoebiasis

**Ans :** (b) Tuberculosis

To prevent TB, children are immunized with BCG (Bacillus Calmette Guerin).

14. Find from the following, a disease you may suffer from, if you live in a over crowded and poorly ventilated place.

- (a) Cholera
- (b) AIDS
- (c) Air borne diseases
- (d) Cancer

**Ans :** (c) Air borne disease

Sneezing is an air borne diseases are prevalent more in overcrowded and poorly ventilated places.

15. Which of the following statements is correct?

- (a) Common cold is not contagious.
- (b) The common cold virus does not have its own RNA.
- (c) Common cold usually takes two months to clear up.
- (d) The common cold virus can leave the body through the mucus of infected people.

**Ans :** (d) The common cold virus can leave the body through the mucus of infected people.

Common cold spreads through the mucus of the infected people during sneezing and coughing.

16. Select a non-infectious disease.

- (a) Leukemia
- (b) Leprosy
- (c) Measles
- (d) Typhoid

**Ans :** (a) Leukemia

Leukemia is a non-infectious disease. It is a type of blood cancer.

17. BCG is an effective vaccine to prevent

- (a) tetanus
- (b) tuberculosis
- (c) diptheria
- (d) pertussis

**Ans :** (b) tuberculosis

BCG vaccine develops immunity against tuberculosis.

18. Find a chronic disease.

- (a) Kala-azar
- (b) Typhoid
- (c) Diarrhoea
- (d) Hypertension

**Ans :** (d) Hypertension

Hypertension is a chronic disease.

19. Which of the following is a mismatch?

- (a) AIDS - Bacterial infection
- (b) Polio - Viral infection
- (c) Malaria - Protozoan infection
- (d) Elephantiasis - Helminth infection

**Ans :** (a) AIDS - Bacterial infection

20. What is 'hare-lip'?

- (a) An acquired disease
- (b) An infectious disease
- (c) A metabolic disease
- (d) A congenital disease

**Ans :** (d) A congenital disease

Harelip is a congenital disease. Congenital diseases are those which are present since birth.

21. What makes you ill if you come in contact with an infected person?

- (a) High blood pressure
- (b) Genetic abnormality
- (c) Sneezing
- (d) Blood cancer

**Ans :** (c) Sneezing

Sneezing is an air borne diseases are prevalent more in overcrowded and poorly ventilated places.

22. What will happen if the kidneys are not filtering urine?

- (a) Urine will be filtered by urinary bladder.
- (b) Lungs will filter the urine.
- (c) Brain will not think normally.
- (d) Blood gets rich in carbon dioxide.

**Ans :** (c) Brain will not think normally.

If the kidneys are not filtering urine, poisonous substances will accumulate. Under such conditions, the brain will not be able to think properly. As these activities are interconnected.

23. Define 'Vector'.

- (a) Micro organisms which cause many diseases.
- (b) Animals carry the infecting agents from a sick person to a healthy person.
- (c) Infected person
- (d) Diseased plants

**Ans :** (b) Animals carry the infecting agents from a sick person to a healthy person.

Vectors are the carriers of pathogens from sick person to a healthy person.

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24. Which of these causes communicable disease?

- (a) Metabolic disorder
- (b) Allergy
- (c) Pathogen
- (d) Hormonal imbalance

**Ans :** (c) Pathogen

Communicable diseases are caused by some biological

agents or pathogens.

25. The term 'disease' means  
 (a) different ease (b) disturbed ease  
 (c) distorted ease (d) diplomatic ease

**Ans :** (b) disturbed ease

The word 'disease' literally means being uncomfortable, we can think of it as disturbed ease.

26. Which disease is different among the following on the basis of mode of transmission?  
 (a) AIDS (b) Syphilis  
 (c) Gonorrhoea (d) Rabies

**Ans :** (d) Rabies

AIDS, syphilis and gonorrhoea are transmitted by sexual contact while rabies spreads by bite of an infected animal.

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27. Find the statement that is incorrect about tuberculosis.  
 (a) It is caused by salmonella.  
 (b) It commonly affects lungs.  
 (c) The causative bacteria releases a toxin tuberculin.  
 (d) Patient's sputum contains blood.

**Ans :** (a) It is caused by salmonella.

Tuberculosis is caused due to the bacteria *Mycobacterium tuberculosis*.

28. Which of the following are protozoan diseases that are transmitted by mosquito vectors?  
 (a) Filariasis and typhus  
 (b) Kala-azar and diphtheria  
 (c) Malaria and kala-azar  
 (d) Yellow fever and dengue fever

**Ans :** (c) Malaria and kala-azar

Malaria is caused due to *Plasmodium* and kala-azar is caused due to *Leishmania*. They both are protozoans.

29. Identify a mis-match pair.  
 (a) Leprosy – bacterial infection  
 (b) AIDS – bacterial infection  
 (c) Malaria – protozoan infection  
 (d) Elephantiasis – nematode infection

**Ans :** (b) AIDS – bacterial infection  
 AIDS is a viral infection.

30. Microbes that generally enter the body through nose, are likely to affect  
 (a) gut (b) lungs  
 (c) liver (d) lymph nodes

**Ans :** (b) lungs

As nose leads to lungs, so microbes that enter the body through nose are more likely to affect the lungs.

31. Identify a bacterial disease.  
 (a) Hepatitis B (b) Poliomyelitis  
 (c) Tetanus (d) Malaria

**Ans :** (c) Tetanus

Tetanus is a lock jaw disease caused by bacteria, *Clostridium tetani*.

32. Elephantiasis is a disease that results in  
 (a) long-term effect on health.  
 (b) short-term effect on health.  
 (c) no effect on health.  
 (d) occasional bad effects on health.

**Ans :** (a) long-term effect on health.

Elephantiasis is a chronic disease. It lasts for a long time and has a long term effect on health.

33. Find from the following, a disease caused by helminth.  
 (a) Common cold (b) Chicken pox  
 (c) Elephantiasis (d) Malaria

**Ans :** (c) Elephantiasis

Elephantiasis (*Filaria*) is caused by a helminth (worm) *Wuchereria bancrofti* which attacks the blood and lymphatic system.

## 2. FILL IN THE BLANK

1. BCG stands for .....

**Ans :** *Bacillus-Calmette Guerin*

2. Rabies is also called .....

**Ans :** Hydrophobia

3. Diseases which are present right from the birth are called .....

**Ans :** Congenital

4. Ability of an organism to resist disease is called a .....

**Ans :** Immunity

5. .... is a dreadful viral disease transmitted to human by the bite of a dog.

**Ans :** Rabies

6. .... drug is used against amoebic dysentery.

**Ans :** Metronidazole

7. Infectious diseases are caused by .....

**Ans :** Micro organisms

8. Malaria is caused by a protozoan called .....

**Ans :** *Plasmodium*

9. Diseases are of two main kinds : Congenital and .....

**Ans :** Acquired

10. Cholera is caused by .....

**Ans :** Bacterium

11. Malaria is caused by .....

**Ans :** Protozoan

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12. Any organism capable of producing a disease is called .....  
**Ans :** Pathogen
13. .... vaccine gives considerable protection against tuberculosis.  
**Ans :** BCG
14. The virus that causes acquired immune deficiency syndrome (AIDS) parasitizes.....  
**Ans :** Helper T-cells
15. The organism which spreads the disease from an infected person to a healthy person is called .....  
**Ans :** Vector

### 3. TRUE/FALSE

1. Acquire diseases are developed after birth.  
**Ans :** True
2. Lack of any nutrient in the diet is known as balanced diet.  
**Ans :** False  
Lack of any nutrient in the diet is known as malnutrition.
3. Cancer is an infectious disease.  
**Ans :** False  
Cancer is non-infections disease.
4. Hepatitis B is more dangerous than Hepatitis A.  
**Ans :** True
5. HIV virus is a retrovirus.  
**Ans :** True
6. AIDS can be transmitted through blood transfusion.  
**Ans :** True
7. Communicable diseases are non-infectious.  
**Ans :** False  
Communicable diseases are infectious.
8. Streptomycin inhibits protein synthesis in pathogenic bacteria.  
**Ans :** True
9. An environmental stress upsets the normal physiological functioning of the organism.  
**Ans :** True
10. Antibiotics are produced by bacteria and fungi.  
**Ans :** True
11. Drugs like Ampicillin and Chloramphenicol are

preventive measures against typhoid.

**Ans :** True

12. Interferons produced in our body, fight against the viral infections.  
**Ans :** True
13. Rickets is caused due to the deficiency of vitamin A.  
**Ans :** False  
Rickets is caused due to the deficiency of vitamin D.
14. Botulism can be caused by canned food.  
**Ans :** True
15. Penicillin is effective against bacteria because it inhibits their wall formation.  
**Ans :** True
16. Personal hygiene is must to prevent infectious diseases.  
**Ans :** True
17. When the diet is deficient in proteins as well as carbohydrates, the child suffers from marasmus.  
**Ans :** True
18. Hepatitis is a non-communicable diseases.  
**Ans :** False  
Hepatitis is a communicable disease.
19. The process of vaccination was developed by Jenner in the year 1796.  
**Ans :** True
20. Ringworm is caused by a nematode worm.  
**Ans :** False  
Ringworm is caused by fungus.

### 4. MATCHING QUESTIONS

1.

Column I		Column II	
(A)	Mycobacterium tuberculosis	(p)	Causes serious disease of lungs
(B)	Clostridium tetani	(q)	Destruction of lining of large intestine
(C)	Salmonella typhi	(r)	Grow in genital tubes
(D)	Diplococcus pneumonia	(s)	Enters the body through deep wounds
(E)	Entamoeba histolytica	(t)	Rod shaped bacterium
(F)	Treponema	(u)	Killed antibiotic - Chloromycetin

	A	B	C	D	E	F
(a)	t	s	u	p	q	r
(b)	s	t	u	p	q	r
(c)	u	t	s	r	q	p
(d)	t	r	u	p	q	s

**Ans :** (a) A-t, B-s, C-u, D-p, E-q, F-r

2.

Column I		Column II (incubation period)	
(A)	Pneumonia	(p)	4-20 days
(B)	Tetanus	(q)	Upto 12 or more years
(C)	Chickenpox	(r)	Several years
(D)	Rabies	(s)	1-3 days
(E)	AIDS	(s)	14-21 days
(F)	Leprosy	(s)	About 1 month

	A	B	C	D	E	F
(a)	s	p	u	t	q	r
(b)	p	s	t	u	r	q
(c)	t	r	s	u	q	p
(d)	s	p	t	u	q	r

**Ans :** (d) A-s, B-p, C-t, D-u, E-q, F-r

3.

Column I		Column II	
(A)	Influenza	(p)	Contaminated food
(B)	Hepatitis	(q)	ORS
(C)	Diarrhoea	(r)	Vaccinia
(D)	AIDS	(s)	Delirium
(E)	Typhoid	(s)	Screening of blood and donors
(F)	Cowpox	(s)	Myxovirus

	A	B	C	D	E	F
(a)	u	q	p	r	s	t
(b)	u	q	p	t	s	r
(c)	u	p	q	t	s	r
(d)	t	p	u	u	r	q

**Ans :** (c) A-u, B-p, C-u, D-t, E-s, F-r

4.

Column I		Column II	
(A)	Soil borne	(p)	Dysentery
(B)	Air borne	(q)	Botulism
(C)	Water borne	(r)	Dengue

Column I		Column II	
(D)	Food borne	(s)	Whooping cough
(E)	Animal bite	(s)	Tetanus
(F)	Vector borne	(s)	Plaque

	A	B	C	D	E	F
(a)	p	q	t	u	s	r
(b)	t	s	p	q	u	r
(c)	t	u	p	q	r	s
(d)	s	t	p	q	u	r

**Ans :** (b) A-t, B-s, C-p, D-q, E-u, F-r

5.

Column I		Column II	
(A)	Virus	(p)	Tinea Solium
(B)	Bacteria	(q)	Anopheles
(C)	Fungi	(r)	Clostridium
(D)	Protozoa	(s)	Mumps
(E)	Helminths	(t)	Thrush
(F)	Vector	(u)	Entamoeba

	A	B	C	D	E	F
(a)	r	s	t	u	p	q
(b)	s	r	t	u	p	q
(c)	p	q	s	t	u	r
(d)	p	u	t	s	r	q

**Ans :** (b) A-s, B-r, C-t, D-u, E-p, F-q

## 5. ASSERTION AND REASON

**DIRECTION :** In each of the following questions, a statement of Assertion is given and a corresponding statement of Reason is given just below it. Of the statements, given below, mark the correct answer as:

- (a) Both assertion and reason are true and reason is the correct explanation of assertion.
- (b) Both assertion and reason are true but reason is not the correct explanation of assertion.
- (c) Assertion is true but reason is false.
- (d) Both Assertion and Reason are false.

1. **Assertion :** In many species of mosquitoes, only the females feed on warm-blooded animals, including humans.

**Reason :** Female mosquitoes are vectors of many diseases.

**Ans :** (b) Both assertion and reason are true but reason is not the correct explanation of assertion.

Mosquitoes are the most common vectors. In many species of mosquitoes, the females need highly nutritious food in the form of blood in order to be able

to lay eggs. These female mosquitoes feed on many warm-blooded animals, including us. In this way, they can transfer diseases from one person to another.

2. **Assertion** : HIV infected person is prone to opportunistic diseases.

**Reason** : Immune system weakens during HIV infection.

**Ans** : (a) Both assertion and reason are true and reason is the correct explanation of assertion.

A HIV infected person has a weakened immune system as the HIV virus goes to the immune system and damages its function. Such people can no longer fight off many minor infections caused by opportunistic organisms like virus, bacteria, fungi, etc. That we face everyday. Therefore, they are more prone to opportunistic diseases.

3. **Assertion** : Its okay to sit near a person suffering from cold.

**Reason** : Cold is a non-communicable disease.

**Ans** : (d) Both Assertion and Reason are false.

It is not okay to sit near a person suffering from cold because cold is a communicable disease. The droplets containing the causative microbe of cold can spread through air when the person sneezes or coughs. If someone standing close by and breathes in these droplets, a person might get infected.

4. **Assertion** : Hepatitis is a viral infection of liver causing its inflammation.

**Reason** : Hepatitis is a contagious disease.

**Ans** : (b) Both assertion and reason are true but reason is not the correct explanation of assertion.

Hepatitis is a viral infection of liver causing its inflammation. It is accompanied by loss of appetite, nausea, whitish stool, but orange brown urine and jaundice which occurs due to bilirubin released from damaged liver cell. Infectious hepatitis spreads from person to person by faecal or oral route. Contamination of water and food may cause epidemic. Serum hepatitis spreads by transfusion of contaminated blood.

5. **Assertion** : Peptic ulcers cause acidity related pain and bleeding in the stomach.

**Reason** : Stress in the life causes peptic ulcers.

**Ans** : (c) Assertion is true but reason is false.

Peptic ulcers cause acidity related pain and bleeding in the stomach and duodenum. Bacterium, *Helicobacter pylori* causes peptic ulcers.

6. **Assertion** : Dengue can be treated by taking antibiotics.

**Reason** : Antibiotics block the biochemical life processes of viruses.

**Ans** : (d) Both Assertion and Reason are false.

Antibiotics are only effective against bacterial infections, they are not effective against viral infections. Dengue is a viral disease, it cannot be prevented by taking antibiotics because viruses do not have biochemical life processes of their own. They are taxonomically different from bacteria and do not use the pathways of bacteria. Hence, antibiotics do not work against viral infections.

7. **Assertion** : Cancer is a non-infectious disease.

**Reason** : Cancer impairs normal body activities only for few days.

**Ans** : (c) Assertion is true but reason is false.

Cancer is a non-infectious disease as it does not spread from an infected person to a healthy person, but it is a chronic disease because it has drastic long-term effects on patient's health.

8. **Assertion** : Making anti-viral medicine is harder than making anti-bacterial medicines.

**Reason** : It takes hundreds of years to prepare antiviral drugs.

**Ans** : (c) Assertion is true but reason is false.

The reason why making anti-viral medicine is harder than making anti-bacterial medicines is that viruses have few biochemical mechanism of their own. They enter our cells and our machinery for their life processes. This means that there are relatively few virus-specific targets to aim at.

9. **Assertion** : Majority of children in many parts of India are already immune to hepatitis A by the time they are five years old.

**Reason** : Children are exposed to the virus through water.

**Ans** : (a) Both assertion and reason are true and reason is the correct explanation of assertion.

Hepatitis virus, which cause jaundice, are transmitted through water. There is a vaccine for one of them, hepatitis A, in the market. But the majority of children in many parts of India are already immune to hepatitis A by the time they are five years old. This is because they are exposed to the virus through water.

10. **Assertion** : Rabies virus is spread by the bite of infected dogs and other animals.

**Reason** : There are anti-rabies vaccines for both humans and animals.

**Ans** : (b) Both assertion and reason are true but reason is not the correct explanation of assertion.

Rabies is caused by the rabies virus named Lyssavirus. This virus is present in the saliva of rabid animals and it enters the human by the bite of these animals. Immediate vaccination, after a bite can prevent the appearance of the disease.

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