

NCERT QUESTIONS WITH SOLUTIONS

1. Group the diseases shown in the images as communicable or non-communicable.



Cold and
flu



Typhoid



Diabetes



Asthma



Chickenpox

Ans. Communicable diseases - Cold and Flu, Typhoid and Chickenpox

Non-communicable diseases - Diabetes, Asthma

2. Diseases can be broadly grouped into communicable and non-communicable diseases. From the options given below, identify the non-communicable diseases.

(i) Typhoid (ii) Asthma

(iii) Diabetes (iv) Measles

(a) (i) and (ii) (b) (ii) and (iii)

(c) (i) and (iv) (d) (ii) and (iv)

Ans. (b) (ii) and (iii)

Asthma and diabetes are non-communicable diseases as they do not spread from one person.

3. There is a flu outbreak in your school. Several classmates are absent, while some are still coming to school coughing and sneezing.

(i) What immediate actions should the school take to prevent further spread?

(ii) If your classmate, who shares the bench with you, starts showing symptoms of the flu, how can you respond in a considerate way without being rude or hurtful?

(iii) How can you protect yourself and others from getting infected in this situation?

Ans. (i) • The school can ask sick students to stay at home to avoid spreading to others.

- Encourage students to cover mouth and nose while coughing or sneezing using a handkerchief.
- Students should keep washing their hands regularly with soap and water before eating.

- Clean and disinfect classrooms, desks, and frequently touched surfaces regularly.

- Advise students not to share personal items like handkerchief, utensils, or water bottles.

- Inform parents about the outbreak and educate students and staff on hygiene and prevention.

(ii) • If your classmate, who shares the bench with you, starts showing symptoms of the flu, you can gently ask them to inform the teacher and visit the school infirmary to get medicine.

- Offer help if they need it, like getting water or informing the teacher on their behalf.

- (iii) • Cour your mouth with mask to reduce risk.
- Wash your hands with soap and water before eating food.
 - Always cover your mouth and nose with a tissue or hanky when coughing or sneezing.
 - Avoid touching your face, especially eyes, nose, and mouth.
 - Do not share personal items like water bottles, towels, or utensils.
 - Keep a safe distance from classmates who are coughing or sneezing.
 - Maintain cleanliness by avoiding littering tissues and disposing of them properly.

4. Your family is planning to travel to another city where malaria is prevalent.
- (i) What precautions should you take before, during, and after the trip?
- (ii) How can you explain the importance of mosquito nets or repellents to your sibling?
- (iii) What could happen if travellers ignore health advisories in such areas?

Ans. Precautions need to take-

(A) Before the Trip:

- Consult a Doctor: Take the necessary suggestions that need for antimalarial medications and vaccinations.
- Bring mosquito repellents, bed nets, and appropriate clothing.

(B) During the Trip: Use Mosquito repellent on exposed skin and use bed nets while sleeping.

- **Wear Protective Clothing:** Opt for long-sleeved shirts and long pants, especially during peak mosquito activity times (dusk and dawn).
- **Avoid Mosquito Habitats:** Stay away from areas with stagnant water where mosquitoes breed.

(C) After the Trip: Monitor Health: Watch for symptoms like fever, chills, or headache.

Seek Medical Attention: If symptoms appear, consult a doctor immediately and inform them about your travel history.

(ii) I would tell my sibling that malaria spreads through mosquito bites and using mosquito nets or repellents helps keep mosquitoes away. This protects us from getting sick and keeps us safe during our travel.

(iii) If travellers ignore health advisories in areas where malaria is common, they may get infected with malaria through mosquito bites. This can lead to serious illness. So, it is important to follow health guidelines to stay safe.

5. Your uncle has started smoking just to fit in with his friends, even though it is well known that smoking can seriously harm health and even cause death.

- (i) What would you say to him to make him stop, without being rude?
- (ii) What would you do if your friend offers you a cigarette at a party?
- (iii) How can schools help prevent students from indulging in such harmful habits?

Ans. (i) To help your uncle stop smoking, you can say, "Uncle, smoking is really dangerous, and it can affect your lungs and heart. It also increases the risk of cancer and heart attacks.

(ii) If a friend of mine offered me a cigarette at a party, I would politely say No thanks, I care about my health a lot and I don't want to try or start anything that can harm me.

(iii) Schools can organise awareness campaigns and programs to make students know about the harmful effects of these things.

They can also put up some posters and charts on the dangers of smoking.

6. Saniya claims to her friend Vinita that "Antibiotics can cure any infection, so we don't need to worry about diseases." What question(s) can Vinita ask her to help Saniya understand that her statement is incorrect?

Ans. Vinita can ask her the following question to help Saniya understand that her statement is incorrect:

(1) Do you know that antibiotics work only against bacterial infections, not viral or protozoan diseases?

(2) Have you heard that overusing antibiotics can make bacteria resistant, making antibiotics less effective?

(3) If antibiotics are useful for treating diseases, then what is the use of vaccines?

7. The following table contains information about the number of dengue cases reported in a hospital over a period of one year:

Months	No. of dengue cases
January	10
February	12
March	15
April	18
May	22
June	40
July	65
August	65
September	65
October	30
November	30
December	20

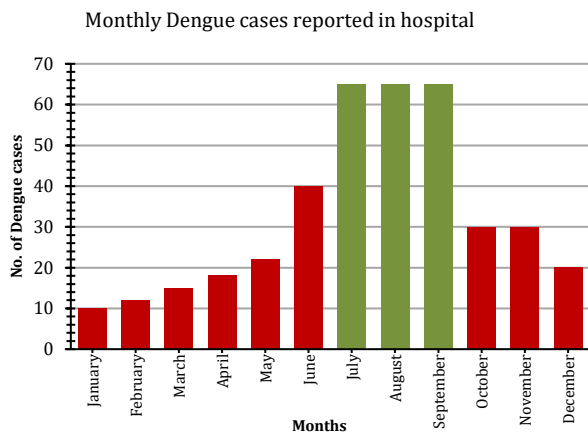
Make a bar graph of the number of cases on the Y-axis and the month on the X-axis. Critically analyse your findings and answer the following:

(i) In which three months were the dengue cases highest?

(ii) In which month(s) were the cases lowest?

(iii) What natural or environmental factors during the peak months might contribute to the increase in dengue cases?

(iv) Suggest a few preventive steps that the community or government can take before the peak season to reduce the spread of dengue.



(i) Three months in which the dengue cases were the highest are July, August, and September, all having 65 cases each.

(ii) Lowest number of cases in month of January.

(iii) During the months from July to September, many regions experience the monsoon season. The water from rainfall gets collected in places that become breeding grounds for mosquitoes. Warm and humid conditions are the environmental factors that contribute to the increase in dengue cases.

(iv) **Preventive measures need to take during rainy season-**

Regular spraying and fogging of insecticides from municipal authority. Use mosquito net and repellents during rainy season.

Removing the stagnant water and clean the tanks regularly.

- Spraying kerosine on the surface of collected water to prevent further breeding spots for mosquitoes.

8. Imagine you are incharge of a school health campaign. What key messages would you use to reduce communicable and non-communicable diseases?

Ans. If I were incharge of a school health campaign, I would give the following messages: **To reduce communicable diseases:**

- Proper hygiene and cleanliness should be maintained
- Washing hands regularly with soap and water.
- Cover your mouth and nose while coughing or sneezing and wear a mask in crowded places.
- Avoid sharing personal items like towels and handkerchiefs.
- if you are unwell, Stay at home to stop the spread of infection.

To reduce non-communicable diseases:

- Eat a balanced diet.
- Exercise regularly.
- Avoid habits like smoking and alcohol consumption.
- Visit doctor regularly for health check-up.

9. It is recommended that we should not take an antibiotic for a viral infection like a cold, a cough, or flu. Can you provide the possible reason for this recommendation?

Ans. Antibiotics are the drugs used to cure diseases caused by bacteria. Antibiotics works against only bacterial infection by killing or inhibiting the growth of bacterial cell. E.g. Penicillin. Antibodies can be extracted from bacteria, fungi etc.

Cold, cough and flue are caused by viruses not bacteria. Antibiotics cannot kill viruses. If the use antibiotics wrongly for viral infection the bacteria in our body may become resistant. So, when we actually need actually antibiotics for a serious bacterial infection the medicines may not work.

10. Which disease(s) among the following may spread if drinking water gets contaminated by the excreta from an infected person? Hepatitis A, Tuberculosis, Poliomyelitis, Cholera, Chickenpox.

Ans. Diseases like Hepatitis A, Poliomyelitis (Polio), and Cholera can spread if drinking water gets contaminated by the excreta of an infected person. However, Tuberculosis and Chickenpox do not spread through contaminated water. They spread through the air when an infected person coughs or sneezes.

11. When our body encounters a pathogen for the first time, the immune response is generally low but on exposure to the same pathogen again, the immune response by the body is much more compared to the first exposure. Why is it so?

Ans. When our body encounters a pathogen for the first time, the immune response is generally low because our immune system takes time to recognize the pathogen and fight it. However, on exposure to the same pathogen again, the body quickly produces lots of antibodies and destroys it much faster.