

## Very Short Answer Type Questions

[1 mark]

**Q. 1. What is meant by symptoms of a disease?**

**Ans.** The conditions in which a sick person experience headache, watering of eyes, loose motions, are collectively called the symptoms of a disease.

**Q. 2. Define reservoir.**

**Ans.** A reservoir is defined as any person, animal, arthropod, plant, soil or substance in which an infectious agent lives and multiplies for its primary survival.

**Q. 3. What is a source of infection?**

**Ans.** Person, animal, object or substance from which an infectious agent passes or is disseminated to the host is known as the source of infection.

**Q. 4. How can we diagnose a disease?**

**Ans.** By laboratory tests.

**Q. 5. What is community health?**

**Ans.** It is the personal health along with the environmental services for the importance of health of the community.

**Q. 6. What does WHO stand for?**

**Ans.** World Health Organisation.

**Q. 7. How can dehydration of the body be prevented?**

**Ans.** Dehydration can be prevented by intake of ORS (Oral Rehydration Solution.)

**Q. 8. How does WHO define health?**

**Ans.** WHO defines health as a state of complete physical, mental and social well-being and not merely an absence of disease or infirmity.

**Q. 9. Classify diseases on the basis of their time of occurrence.**

**Ans.** Congenital diseases and acquired diseases.

**Q. 10. What are congenital diseases?**

**Ans.** The diseases which are present from the time of birth and are hereditary are called congenital diseases.

**Q. 11. Write the name of a disease that spreads through direct contact.**

**Ans.** Leprosy

**Q. 12. why is rabies also called as hydrophobia?**

**Ans.** Rabies is also called as hydrophobia because its main symptom is fear of water.

**Q. 13. Name the disease-causing microbe that lives and remains active inside the host cell.**

**Ans.** Virus

**Q. 14. Against what disease BCG vaccine is given?**

**Ans.** Tuberculosis

**Q. 15. What are vectors?**

**Ans.** The organisms that act as intermediaries and carry the infectious agents from a sick person to a potential host are called vectors.

**Q. 16. Name the vector of malaria.**

**Ans.** Female *Anopheles* mosquito.

**Q. 17. What do you mean by immune system?**

**Ans.** The system in our body which protects us from the various disease-causing agents is called immune system.

**Q. 18. Expand AIDS.**

**Ans.** Acquired Immuno Deficiency Syndrome

**Q. 19. Expand HIV.**

**Ans.** Human Immunodeficiency Virus.

**Q. 20. What is the incubation period of hepatitis B?**

**Ans.** 45 to 185 days

**Q. 21. How can AIDS be transmitted?**

**Ans.** AIDS can be transmitted through sexual intercourse, use of contaminated syringes as well as by transfusion of contaminated blood.

**Q. 22. When is World AIDS Day observed?**

**Ans.** On 1st December

**Q. 23. What is immunity?**

**Ans.** Immunity is the ability of the body to defend against a disease.

**Q. 24. Deficiency of which vitamin causes xerophthalmia.**

**Ans.** Vitamin A

**Q. 25. Expand OPV.**

**Ans.** Oral Polio Virus vaccine

**Q. 26. Give the name of two diseases which result from protein malnutrition.**

**Ans.** Kwashiorkor and marasmus

**Q. 27. What is the cause of the disease beri-beri?**

**Ans.** Deficiency of water-soluble vitamin B<sub>1</sub> (thiamine) causes beri-beri.

**Q. 28. Give the full form of PEM**

**Ans.** Protein Energy Malnutrition

**Q. 29. What is the function of haemoglobin?**

**Ans.** Transport of oxygen from lungs to all cells of the body through blood.

**Q. 30. Name the mineral present in haemoglobin.**

**Ans.** Iron

**Q. 31. Name the fat-soluble vitamins.**

**Ans.** Vitamin A, D, E and K are fat soluble.

**Q. 32. Name the disease caused by the deficiency of iodine.**

**Ans.** Goitre

**Q. 33. While going abroad why is it essential to get vaccinated against certain diseases?**

**Ans.** A person may be a carrier of a disease, such a person can carry the disease to a foreign country. To avoid this the person is vaccinated.

**Q. 34. What is the method of transmission of the disease cholera?**

**Ans.** Contaminated water

**Q. 35. Which vitamin is formed by the body with the help of sunlight?**

**Ans.** Vitamin D

**Q. 36. Name the disease caused by the deficiency of vitamin D.**

**Ans.** Rickets

**Q. 37. Name the disease which causes swollen and bleeding gums.**

**Ans.** Scurvy

**Q. 38. What is the name of the disease that occurs in people who eat polished rice everyday?**

**Ans.** Beri-beri

**Q. 39. should not vegetables and pulses be washed repeatedly for a long time?**

**Ans.** Repeated washing of vegetables and pulses results in depletion of vitamin C which is a water-soluble vitamin.

**Q. 40. What is an antibiotic? Give two examples.**

**Ans.** Antibiotic is a chemical substance secreted by microorganisms which can kill bacteria. For example, penicillin and streptomycin.

**Q. 41. Name any two groups of microorganisms from which antibiotics could be extracted.**

**Ans.** Bacteria and fungi

**Q. 42. Who discovered 'vaccine' for the first time? Name two diseases which can be prevented by using vaccines.**

**Ans.** Edward Jenner discovered vaccine for the first time. Small pox and polio can be prevented by using vaccines.

## Short Answer Type Questions – I

[2 marks]

**Q. 1. What is a balanced diet?**

**Ans.** A balanced diet is the one which contains a variety of foods in such quantities and proportions that the need for energy, amino acids, vitamins, minerals, water and roughage is adequately met for maintaining health, vitality and general well being.

**Q. 2. Why is immune system essential for our health?**

**Ans.** The immune system of our body is a defence mechanism to fight against pathogenic microbes. It has cells that are specialised to kill infecting microbes and keep our body healthy. If the body's immune system is strong, it can easily fight pathogens, keeping us healthy.

**Q. 3. why is mother's milk best for babies?**

**Ans.** Mother's milk is rich in proteins and other nutrients. It provides a complete diet to the baby. Intake of mother's milk increases body weight, body muscles and subcutaneous fat.

**Q. 4. What are the two basic principles of prevention of infectious diseases?**

**Ans.** The two basic principles of prevention of infectious diseases are:

(a) Prevention from exposure to infectious microbes.

(b) Provision of proper nutrition to keep the immune system in a healthy state.

**Q. 5. What is the mechanism of action of antibiotics?**

**Ans.** Antibiotics are chemical substances obtained from some microbes, which stop the growth of specific kind of pathogens. They block certain biochemical pathways important for the lifecycle of pathogen. For example, penicillin does not allow cell wall formation in some bacteria. It blocks chemical reaction required for cell wall formation.

**Q. 6. 'Public cleanliness is important for individual health'. Comment.**

**Ans.** The garbage thrown in open places, overflowing drains or sewer water, stagnant water, etc. are the places where disease-causing microbes multiply and mosquitoes and flies breed. These mosquitoes and flies act as carriers of disease-causing microbes. As a result, diseases may spread in the community and affect individual health. Thus, public cleanliness is important for individual health.

**Q. 7. Why is vaccination considered a prevention of diseases?**

**Ans.** Vaccines induce a specific immune response in the body. This response also produce memory cells which persist in the body even in the absence of pathogen. If the pathogen attacks the body again, the immune system with the help of memory cells recognise it and destroy it before it causes the disease.

**Q. 8. Why is social equality necessary for individual health?**

**Ans.** If the mind is cheerful and happy, people are not prone to tensions. Moreover, as they are not disturbed, they will take care about doing anything which affects their health. On the other hand, if people are socially disturbed and unsafe, they cannot be happy and healthy. So, social equality is necessary for individual health.

**Q. 9. Why are good economic conditions needed for individual health?**

**Ans.** First of all, for good health, proper and sufficient food is necessary. This food can be obtained only by spending money, for which the individual has to earned. So, opportunity to work and earn have to be made available for which there must be good economic conditions in the society.

**Q. 10. Describe congenital disease.**

**Ans.** Congenital disease is the one that is present in an individual from birth. This may be due to genetic abnormality, metabolic disorders or malfunctioning of any body organ. These are permanent and are generally not easily curable. These are passed to the children from parents.

**Q. 11. Describe deficiency diseases.**

**Ans.** Deficiency diseases are caused due to deficiency of certain nutrients in our diet like proteins, minerals and vitamins. It is a type of non-communicable disease. Examples: Kwashiorkor, marasmus, anaemia, etc.

**Q. 12. Describe degenerative diseases.**

**Ans.** Degenerative diseases are caused due to malfunctioning of body organs or degeneration of tissues in old age. It is a type of non-communicable disease. Example: Kidney failure is due to improper functioning of kidneys, cancer is due to uncontrolled growth of tissues in any part of the body, etc.

**Q. 13. Why is it considered important to study the different categories of infectious agents?**

**Ans.** The infectious agents have been categorised, as these categories are important factors in deciding the kind of treatment to be used to treat the diseases caused by them.

**Q. 14. Why there is no use of giving vaccine of hepatitis A virus?**

**Ans.** As the majority of children in many parts of India are exposed to the virus causing hepatitis A, they are already immune to hepatitis A by the time they are five years old. So, there is no use of giving vaccines.

**Q. 15. Why are antibiotics not effective for viral disease?**

**Ans.** Antibiotics act by inhibiting the biosynthetic pathways. This way they eventually die. However, viruses do not have components for the biosynthetic pathways. Instead, they utilise the components of the host body to complete their life cycles. Therefore, antibiotics are not effective against viruses.

**Q. 16. (i) Which bacterium causes peptic ulcers?**

**(ii) Who discovered the above pathogen for the first time?**

**Ans. (i)** *Helicobacter pylori*.

**(ii)** Marshall and Warren.

**Q. 17. What do you mean by disease symptoms? Explain giving two examples.**

**Ans.** When the functioning or the appearance of one or more systems of the body will change for the worse, it gives certain abnormal signs of the disease. These visual changes in human beings are called symptoms. Symptoms give indication of the presence of a particular disease.

**Examples: (i)** Cough is the symptom of lung infection.

**(ii)** Lesions on the skin are the symptoms of chicken pox.

**Q. 18. Becoming exposed to or infected with an infectious microbe does not necessarily mean developing noticeable disease. Explain.**

**Ans.** Because of strong immune system, our body is normally fighting off microbes. We have cells which are specialised to kill the pathogenic microbes. These cells are active when infecting microbes enter the body and if they are successful in removing the pathogen, we remain disease-free. So even if we are exposed to infectious microbes, it is not necessary that we suffer from diseases.

**Q. 19. (i) Name two diseases caused by Protozoa.**

**(ii) What are their causal organisms?**

**Ans. (i)** Sleeping sickness caused by *Trypanosoma* and malaria by *Plasmodium*.

**(ii)** Kala-azar caused by *Leishmania*.

## Short Answer Type Questions – II

[3 marks]

**Q. 1. What are the constituents of a balanced diet?**

**Ans.** Constituents of a balanced diet are as follows:

- (a) **Carbohydrate:** It provides 50-70% of total energy intake.
- (b) **Fat:** For an adult fat should provide 20% of total energy intake. Children require more fat so as to suffice 50% of the total energy intake.
- (c) **Proteins:** Protein intake should be about 15-20% of the total daily energy intake.
- (d) Vitamins and minerals
- (e) Water
- (f) Roughage

**Q. 2. Write four common symptoms of malaria.**

**Ans. (i)** Sudden appearance of fever with pain and sensation of cold shivering.

**(ii)** Body temperature rises up to 106°F and patient becomes burning hot. He or she experiences intense headache, faster breathing rate and heartbeat.

**(iii)** Fever later comes down with profuse sweating. This occurs either daily at a particular time or is repeated every third or fourth day depending upon the species of the parasite.

**(iv)** Enlargement of spleen and anaemia occurs.

**Q. 3. Write the distinct species of malarial parasite in man.**

**Ans.** Malaria in man is caused by four distinct species of malarial parasites:

**(i) *Plasmodium vivax*:** incubation period in human is 8-17 days.

**(ii) *P. falciparum*:** incubation period in human is 9-14 days.

**(iii) *P. malariae*:** incubation period in human is 18-40 days.

**(iv) *P. ovale*:** incubation period in human is 16-18 days.

**Q. 4. What is the difference between being 'healthy' and 'disease-free'?**

**Ans.** A person is said to be healthy when:

- (a) All the organs and systems of the body are intact and working well.
- (b) One is mentally balanced, free from anxieties and tensions.



(c) One is socially well-adjusted in the family, friends and society.

Whereas being 'disease-free' means absence of any body discomfort. Thus, being healthy is not just freedom from disease.

**Q. 5. What are the immediate and contributory causes of diseases? Explain it with the example of a child suffering from diarrhoea.**

**Ans.** Immediate cause of a disease is the primary factor causing a disease. Contributory causes are factors, which do not cause the disease themselves but provide conditions for the disease to occur. Virus causing diarrhoea is the immediate cause. Contaminated drinking water and lack of resistance due to under-nourishment are the contributory causes.

**Q. 6. Write the symptoms when following organs are targeted by microbes.**

(a) Lungs

(b) Liver

(c) Brain

**Ans. (a)** Lungs - cough, breathlessness

(b) Liver – jaundice

(c) Brain - headache, vomiting, fits.

**Q. 7. Enlist the cause of diseases.**

**Ans.** Disease may be caused due to any of the following reasons:

(i) Infection

(ii) Lack of nutritive and sufficient food

(iii) Poor health

(iv) Lack of public services

(v) Hereditary reasons

**Q. 8. Describe health care.**

**Ans.** Health care is provided to vast majority of poor, rural and urban people through effective health care centres. Health care services provide different types of care at primary health care centre and secondary health care centers.

**Primary health care** is provided by the primary health centres established in small towns and villages, through the agency of health workers, village health guide and trained *dhayas*.

**Secondary health care** deals with more complex problems. It is generally provided in district hospitals and community health centers.

**Q. 9. What determines the severity of disease manifestation?**

**Ans.** The number of disease-causing microbes in the body decide the severity of disease manifestation. If the number of microbes is very small, the disease manifestations may be minor and even go unnoticed. But if the number of microbes is large, the disease can be severe. In fact if the number of microbes is very large, the disease can even be fatal. Our immune system is a major factor that determines the number of microbes surviving in the body.

**Q. 10. Differentiate between communicable and non-communicable diseases**

**Ans.**

Communicable Diseases	Non-communicable Diseases
<p><b>1.</b> These diseases can be transmitted from an infected person to a healthy person.</p> <p><b>2.</b> These are spread by microorganisms called Pathogens.</p> <p><b>3.</b> <i>e. g.</i>, Cholera, influenza, AIDS, malaria, etc.</p>	<p><b>1.</b> These diseases cannot be transmitted.</p> <p><b>2.</b> These are caused by deficiency of nutrients or hormone, tumour formation, etc.</p> <p><b>3.</b> <i>e. g.</i>, Diabetes, marasmus, goitre, cancer, etc.</p>

**Q. 11. Name the infectious disease that leads to immunodeficiency. Give the scientific name of the pathogen causing the disease and mention the body organs it primarily affects.**

**Ans.** AIDS is an infectious disease that leads to immune deficiency and wasting of body parts. It is caused by Human Immunodeficiency Virus (HIV). HIV attacks helper T-lymphocytes, thus causing cell-mediated immunodeficiency, which makes the body more prone to various infections.

**Q. 12. Name fat-soluble vitamins and diseases caused by them.**

**Ans.** Fat-soluble vitamins include vitamin A, D, E and K.

Vitamin	Deficiency Diseases
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A	Xerophthalmia, night-blindness, keratomalacia
D	Rickets in children, osteomalacia in adults
E	Anaemia
K	Bleeding disease

**Q. 13. What are the causes and symptoms of goitre?**

**Ans.** Goitre is caused due to deficiency of iodine in the diet.

**Symptoms of goitre are as follows:**

- (i) Abnormal growth of thyroid gland situated in the front part of the neck.
- (ii) Increase in body weight due to accumulation of fat and retention of water in the body.
- (iii) Increased rate of spontaneous abortion and still birth.
- (iv) Disorder in nervous system. Iodine deficiency in childhood causes reduced functioning of the thyroid gland resulting in retarded growth.

**Q. 14. What are the sources of iodine? What are the prevention and control methods of goitre.**

**Ans. Sources of iodine:** The best sources of iodine are sea foods and cod liver oil. A smaller amount of iodine occurs in milk, leafy vegetables, cereals and meat, etc. Iodised salt contains sufficient amount of iodine.

**Prevention and control of goitre:** It can be prevented by providing iodine in the diet in the form of iodised salts, such as potassium iodate and potassium iodide. These can be added in drinking water or in common salt used daily. Intra-muscular injection of iodised oil or sodium iodide tablets developed by Indian Council of Medical Research is quite effective in curing goitre.

**Q. 15. What are the indirect modes of transmission of infectious diseases?**

**Ans.** Indirect transmission occurs through flies, food and fluid, etc. Infectious agents are transmitted through water and food including vegetable, fruits, milk, milk products, ice, blood serum, plasma, etc. Their transmission is vehicle-borne. Some examples are as follows:

1. Hepatitis A virus	Multiplies in water
2. Diarrhoea, typhoid fever, polio, cholera	Transmitted by water and food
3. Hepatitis B, malaria, syphilis, chagas disease	Transmitted by vectors

**Q. 16. What are the common preventive measures against communicable diseases?**

**Ans.** The common preventive measures against communicable diseases include:

- (i) Eradication of vectors and carriers.
- (ii) Immunisation (vaccination).
- (iii) Proper and safe water supply.
- (iv) Personal and community hygiene.
- (v) Sterilisation of articles used by the patients.
- (vi) Isolation of patients from the healthy persons.
- (vii) Health education.

**Q. 17. Name the diseases caused by the following - (i) Protozoa, (ii) Virus, (iii) Bacteria, (iv) Fungi. How is malaria transmitted?**

**Ans.** The diseases caused by various microorganisms are as follows:

- (i) **Protozoa:** Malaria, amoebiasis, dysentery, giardiasis, kala-azar, etc.
- (ii) **Virus:** AIDS, polio, dengue, rabies, chicken pox, influenza, etc.
- (iii) **Bacteria:** Pneumonia, diphtheria, tuberculosis, meningitis, leprosy, typhoid, tetanus, syphilis, etc.
- (iv) **Fungi:** Fungi mainly causes skin diseases and food poisoning.

Malaria is caused by a parasite found in female *Anopheles* mosquitoes. When the mosquitoes carrying the malarial parasite bite a person, the parasite enters the blood stream and the person suffers from malaria.

**Q. 18. What are the three limitations which one has to face while dealing with an infectious disease?**

**Ans.** The three limitations which one has to face while dealing with an infectious disease are:

- (i) The body functions are damaged drastically and may never recover completely if not cared.
- (ii) The treatment will take time, which means that someone suffering from a disease is likely to be bed-ridden for sometime.
- (iii) The person suffering from an infectious disease can serve as a source from where the infection may further spread to other people.

**Q. 19. What is immunity? Explain natural and acquired immunity.**

**Ans.** Immunity means the resistance of the body to a disease. It is due to the presence of antibodies in our body against the disease-causing microorganisms known as antigens. When these antigens enter our body, antibodies are formed which prevent the disease.

Natural immunity means that a person has these antibodies since birth. *e. g.*, whenever antigens, say of cholera enter the body, the person will not suffer from the disease. Acquired immunity means when a person suffers from a disease once, antibodies for these particular disease-causing antigens will be formed in the body and he will not get the same disease again.

**Q. 20. Give an example where tissue specificity of the infection leads to very general seeming effects.**

**Ans.** We can see the tissue specificity of the infection leading to very general seeming effects in case of HIV infection. The HIV attacks the immune system via the lymph nodes. From here it spreads all over the body and damages its functions. Because of this, the body becomes prone to various diseases as it cannot fight off even the minor infections which otherwise would not have lasted longer.

For example, even a small cold can become pneumonia and a minor gut infection may lead to a severe case of diarrhoea with blood loss.

In the same way, other infections kill people that are suffering from, *e. g.*, HIV-AIDS. The tissue specificity of the infection (HIV-AIDS) is lymph nodes. General seeming effects are loss of immunity even to minor diseases or infections that ultimately lead to the death of the patient.

**Q. 21. What precautions will you take to justify "prevention is better than cure"?**

**Ans.** Following precautions should be taken for prevention of diseases:

- (i) Maintaining hygienic conditions.
- (ii) Awareness about the disease and its causal organism.
- (iii) Intake of a balanced diet.
- (iv) Regular medical check-up.

**Q. 22. Give any four factors necessary for a healthy person.**

**Ans.** For a healthy person it is necessary that

- (i) the surrounding environment should be clean. Air and water-borne diseases should not spread.
- (ii) personal hygiene is maintained to prevent infectious diseases.

**(iii)** proper, sufficient nourishment and food is available for good immune system of our body.

**(iv)** body is immunised against severe diseases.

## Long Answer Type Questions

[5 marks]

**Q. 1. Discuss the causes, symptoms, preventive measures and treatment of AIDS.**

**Ans.** AIDS is caused by a retrovirus, HIV (Human Immunodeficiency Virus). It is transmitted from an infected to a healthy person through sexual contact, blood transfusion, use of infected needle or blade. Also, it may get transmitted from infected mother to her foetus.

### **Symptoms:**

- (i) Inflammation in lymph glands.
- (ii) Loss of weight and sweating during night.
- (iii) Bleeding and fever.
- (iv) Severe damage to the brain which may even lead to loss of memory. In some cases, the person may cease to speak and even think.
- (v) Above all, the possibility of other diseases also increases because of the damage caused to the immune system.

### **Prevention:**

- (i) By avoiding sexual contact with unknown persons.
- (ii) By using sterilised needles, blades, etc.
- (iii) By ensuring that the blood to be transfused is free from HIV.

**Q. 2. What do you mean by disease? Describe the various causes of diseases.**

**Ans.** Disease is defined as a condition of the body or a part of it in which its normal functioning gets disturbed. The main causes of diseases are:

- (i) Biological agents which are disease-causing microorganisms or pathogens like viruses, bacteria, fungi, protozoans, etc.
- (ii) Physical agents like heat, cold, radiation, humidity, pressure, electricity, sound, etc.
- (iii) Mechanical agents such as chronic friction as well as other mechanical forces that cause injuries, trauma and fractures, etc.
- (iv) **Chemical agents which are of two types:**
  - (a) Endogenous chemical agents which are formed in the body, like urea, uric acid, etc.

**(b)** Exogenous chemical agents which enter the body of the individual from outside, like metals, spores and pollens, etc.

**(v)** Inherited diseases: Some diseases are because of the hereditary reasons, disturbance in chromosomes or genes.

**(vi)** Social agents which may cause mental disorders.

**(vii)** Deficiency diseases are caused by insufficiency, absence or excess of a nutrient necessary for health.

### **Q. 3. Discuss types of anaemia with their symptoms.**

**Ans.** Iron deficiency in the body results in anaemia. Nutritional anaemia is a disease syndrome caused by malnutrition. It is of two types:

**(i)** Microcytic anaemia

**(ii)** Pernicious anaemia

**Microcytic anaemia:** It occurs due to deficiency of iron in human diet.

#### **Symptoms:**

An anaemic person:

**(i)** becomes pale, weak and tired.

**(ii)** loses appetite.

**(iii)** loses body weight.

**Pernicious anaemia:** It is caused due to deficiency of vitamin B<sub>12</sub>.

**Symptoms:** Patient becomes paler, shortness of breath after slight exertion, loss of weight, weakness, etc. It may be fatal.

### **Q. 4. Why is AIDS considered to be a syndrome' and not a disease?**

**Ans.** AIDS causing virus-HIV that comes into the body via the sexual organs or blood transfusion will spread all over the body through lymph nodes. The virus damages the immune system of the body and due to this the body can no longer fight off many minor infections. Instead, every small disease like cold can become severe pneumonia or minor gut infection can become severe diarrhoea with blood loss. The effect of disease becomes very severe and complex, at times killing the person suffering from AIDS. Hence, there is no specific disease symptom for AIDS but it results in a complex disease. Therefore, it is known as a syndrome.

### **Q. 5. What are the essential components of primary health care?**

**Ans.** Primary health care includes the following essential components:



- (i) Providing education concerning prevailing health problems and methods of preventing and controlling them.
- (ii) Provision of food supply and proper nutrition.
- (iii) Adequate supply of safe and clean drinking water and basic sanitation.
- (iv) Provision of maternal and child health care.
- (v) Immunisation against major infectious diseases.
- (vi) Prevention and control of local epidemic diseases.
- (vii) Appropriate treatment of common diseases and injuries.
- (viii) Provision of essential drugs,
- (ix) Promoting health education in schools and colleges.

**Q. 6. Describe influenza with its symptoms and prevention.**

**Ans.** Influenza or flu is an acute respiratory tract infection caused by influenza virus. It is of three types - A, B and C. Influenza virus A and B have caused epidemics throughout the world. Influenza virus C occurs sporadically in the form of small outbreak. Major reservoirs of influenza virus are animals and wild birds. Influenza is spread mainly from person to person by droplet infection created by sneezing, coughing or talking and enters the respiratory tract. Its incubation period is 18 to 72 hours.

**Symptoms:** Fever, chills, aches and pain, coughing and weakness.

**Prevention:** Sufferers should cover their faces with handkerchief while coughing and sneezing Healthy persons should remain away from such patients.

**Q. 7. Distinguish between acute diseases and chronic diseases.**

**Ans.**

Acute Diseases	Chronic Diseases
<ol style="list-style-type: none"> <li>1. Last for short periods of time, e. g., common cold.</li> <li>2. Cause major effects on general health in a very short time.</li> <li>3. Feeling of tiredness does not occur all the time.</li> <li>4. Weight-loss does not occur and one does not become short of breath.</li> <li>5. Acute diseases do not have long-term effects.</li> </ol>	<ol style="list-style-type: none"> <li>1. Last for a long time, even life-time, e.g., elephantiasis.</li> <li>2. It takes a long time to cause major effects on general health.</li> <li>3. In case of chronic disease, one feels tired all the time.</li> <li>4. Weight-loss occurs and one becomes short of breath.</li> <li>5. Chronic disease have long-term effects.</li> </ol>

**Q. 8. Differentiate between kwashiorkor and marasmus.**

**Ans.**

Kwashiorkor	Marasmus
<ol style="list-style-type: none"> <li>1. Occurs due to deficiency of protein in the diet.</li> <li>2. Child shows oedema in lower legs, lower arms and usually in face.</li> <li>3. Appetite is poor. Skin shows no change.</li> <li>4. Irritable, moaning and apathetic.</li> <li>5. It occurs in children from one to five years of age.</li> </ol>	<ol style="list-style-type: none"> <li>1. Occurs due to deficiency of protein, carbohydrate and fat in the diet.</li> <li>2. No swelling.</li> <li>3. Appetite is usually good. Skin is flaky with diffused pigmentation.</li> <li>4. Quiet and apathetic.</li> <li>5. It occurs in infants up to one year of age.</li> </ol>

**Q. 9. Explain giving reasons:**

**(a) Balanced diet is necessary for maintaining healthy body.**

**(b) Health of an organism depends upon the surrounding environmental conditions.**

**(c) Our surrounding area should be free of stagnant water.**

**(d) Social harmony and good economic conditions are necessary for good health.**

**Ans. (a)** Food is necessary for the growth and development of the body. Balanced diet provides raw materials and required energy in appropriate amount through nutrients like proteins, carbohydrates, fats, minerals, etc. which in turn are essential for the proper growth and functioning of a healthy body.

**(b)** Health is a state of being well enough to function physically, mentally and socially and these conditions in turn depend upon the surrounding environmental conditions. e. g., if there are unhygienic conditions in surrounding area, it is likely that we might get infected or diseased.

**(c)** This is so because many water-borne diseases and insect vectors flourish in stagnant water which cause diseases in human beings.

**(d)** Human beings live in societies and different localities like villages or cities, which determine the social and physical environment and hence both are to be kept in harmony. Public cleanliness is important for individual health. For better living conditions money is required. We need good food for healthy body and for this we have to earn. For the treatment of diseases also, one has to be in good economic condition.

## HOTS (Higher Order Thinking Skills)

**Q. 1. Why is making anti-viral drugs more difficult than making anti-bacterial medicines?**

**Ans.** Because viruses have very few biochemical mechanisms of their own.

**Q. 2. If you live in an overcrowded and poorly ventilated house, you may suffer from which of the following diseases?**

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

**Ans.** (c) Air-borne diseases

**Q. 3. Name the target organs for the following diseases**

- (a) Hepatitis targets \_\_\_\_\_.  
(b) Fits or unconsciousness targets \_\_\_\_\_.  
(c) Pneumonia targets \_\_\_\_\_.  
(d) Fungal disease targets \_\_\_\_\_.

**Ans.** (a) Liver (b) Brain  
(c) Lungs (d) Skin

**Q. 4. Classify the following diseases as infectious or non-infectious.**

- (a) AIDS (b) Tuberculosis  
(c) Cholera (d) High blood pressure  
(e) Heart disease (f) Pneumonia  
(g) Cancer

**Ans.** (a) Infectious (b) Infectious  
(c) Infectious (d) Non-infectious  
(e) Non-infectious (f) Infectious  
(g) Non-infectious

**Q. 5. Why do some children fall ill more frequently than others living in the same locality?**

**Ans.** Frequency of falling ill depends on the strength of the body's immune system to fight common pathogens. Due to poor immune system, some children fall ill frequently. Balanced diet and proper nutrition for healthy body is required to have a strong immune system.

**Q. 6. Why should we always cover our while sneezing?**

**Ans.** Microbes present in our lungs and respiratory tracts can spread through tiny droplets thrown out during sneezing. Anyone standing close-by can inhale air containing

these droplets and get infection. Therefore, we should always cover our nose while sneezing.

**Q. 7. If you go to hospital to meet yours friend suffering from malaria, what are the chances of malaria spreading to you and your friends?**

**Ans.** Malaria is an infection disease caused by a protozoan and is spread by anopheles mosquito vector. It cannot spread by simply being with the patient or by contact.

## Value Based Questions

**1. The number of dengue cases had increased in Pooja's village in last one year. She has studied that diseases like dengue spread through mosquitoes which breed in stagnant water. She immediately suggested her friends and decided to kill the mosquitoes in water bodies in the locality. They also took help of nearest municipal office.**

**Answer the following questions based on above information:**

- (i) Which preventive measures do you suggest for the prevention of such diseases caused by mosquitoes? Mention any two measures.**
- (ii) Which values are displayed by Pooja in taking initiative?**
- (iii) Suggest one school activity to promote such values in school students.**

**Ans.** (i) Avoid water logging, proper and regular disinfection, use of mosquito net and repellents.

(ii) Community Service/Social Responsibility/Environmental protection/Awareness about healthy living conditions. (Any two)

(iii) Organising campaigns for creating awareness amongst masses/Organising debates/Arranging similar community service/Group discussion. (Any one)

**2. Government officials often go from one house to another every year and request people to take their infants to the Pulse Polio booths to administer polio drops to them. However, in a particular colony there were six infants but only four were taken to the booth.**

**Answer the following questions based on the above information:**

**(i) Why does the Government take active part in administering polio drops to all infants?**

**(ii) What values are being ignored by people who do not take their infants to the pulse Polio booth?**

**(iii) Government officials go from house-to-house for promoting polio drops vaccination.**

**Besides doing their office duty, which values are promoted through their actions?**

**Ans.** (i) To make the country polio-free and increase the health standards of the country.

(ii) Care of their children's health, prudence, social good.

(iii) Service to society, social concerns, and goodness to others.

**3. Nita's mother fell ill and the doctor diagnosed her with pernicious anemia. She felt lethargic and did not have the energy to do work. Nita helped her mother in household work till she recovered.**

**Answer the following questions based on the above information:**

- (i) Name the vitamin whose deficiency caused pernicious anemia.**
- (ii) What changes do you think the doctor might have made to her diet?**
- (iii) Mention the values shown by Nita.**

**Ans. (i)** Vitamin B12.

**(ii)** Increased animal products-meat, egg and dairy products.

**(iii)** Self awareness, caring, responsible.

**4. Naveen was suffering from respiratory disorder since long time. His daughter Sarika took him to a doctor. After studying his case, the doctor came to know that Naveen was residing near a very busy road.**

- (i) What could be the possible reason for Naveen's respiratory disorder?**
- (ii) Which major pollutants are present in exhaust of vehicles?**
- (iii) Write the preventive measures that should be taken.**

**Ans. (i)** Air pollution.

**(ii)** Carbon monoxide, carbon dioxides, nitrogen oxides and smoke.

**(iii)** Use of fuel that burns completely, regularly PUC (pollution under control) to be checked of all the vehicles.

**5. In a school assembly, the students were asked to wear full sleeves shirts, full pants and socks pulled till knees, use mosquitoes repellants cream during day time.**

- (i) Name the disease, about which preventive instruction are given in the assembly.**
- (ii) Name the vector of this disease.**
- (iii) Give two preventive environmental measures.**
- (iv) Which two values were given in assembly related to society?**

**Ans. (i)** Dengue.

**(ii)** Aedes mosquito.

**(iii)** Water should not be stagnant, use of mosquito repellants.

**(iv)** Awareness, importance to health.

**6. Two HIV-infected siblings Radha and Rahul were expelled from their school Only after the intervention of an NGO, they were readmitted.**

- (i) What values are promoted by the school?**
- (ii) write any three modes of transmission of this disease.**
- (iii) What is your viewpoint about both the steps taken by the school as well as the NGO?**

**Ans. (i)** Discrimination, no regard for human values.

**(ii)** Blood transfusion, infected syringe, carrier mother to her foetus.

**(iii)** School was wrong, an NGO was right.

**7. Smita came to school one day with running nose, reddish and watery eyes and coughed often. She met Aarushi in the morning assembly who advised her to sit on a separate desk in the classroom till she recovers.**

**(i) Name the disease from which Smita is suffering from?**

**(ii) Enlist any two preventive measures.**

**(iii) What is your view point on the Arushi's advice?**

**Ans. (i)** Cold.

**(ii) (a)** Isolation of patient.

**(b)** Personal hygiene.

**(iii)** Aarushi's advice was helping, caring and she was aware of disease.

**8. Raman's family is happy as he became a proud father to a baby girl. Upon a routine visit to the hospital, the doctor advised him not to skip the vaccination schedule. While discussing the same at home, one of the family members suggested that vaccination is not necessary for girl child. Raman opposed this suggestion.**

**(i) What values are promoted by Raman?**

**(ii) Name any two common vaccines and their associated disease.**

**(iii) Critically comment upon Raman's viewpoint.**

**Ans. (i)** Awareness, caring nature, prudence.

**(ii)** B.C.G. for tuberculosis and DPT for diptheria.

**(iii)** According to Raman, vaccination is important for each and every child whether it is a girl or a boy. By this view it shows that he opposes gender discrimination.

**9. Ruchi and Rahul are discussing on vaccination. Rahu during the discussion, submitted his fear that the inoculated vaccination can be dangerous because it contains dead germs. Ruchi explained and removed his fears.**

**(i) What could be Ruchi's explanation?**

**(ii) What values do you think Ruchi possesses?**



**Ans. (i)** Ruchi explained that the process of vaccination includes inducing immunity by administering a vaccine to allow the immune system to prevent infection.

**(ii)** Ruchi possesses the acquired knowledge of vaccination she showed the helpful value and awareness also.

**10. Mukesh, an engineering student, is from an affluent family and is physically active. But to support his lavish lifestyle, he starts stealing mobile phones and laptops of his classmates. He was caught and counselled by his teachers to stop such a behaviour.**

**(i) Do you think Mukesh is healthy or disease-free? Substantiate your answer.**

**(ii) What values are promoted by his teacher?**

**Ans. (i)** Mukesh is disease free not healthy, habit of stealing makes him unfit in the society.

**(ii)** Instead of banishing him from the society, the teacher tries to help him out.

**11. Although Ruchi had been suffering from cold and cough, yet she decided to appear for her unit test. Neeta seated next to her was not affected but Pooja seating behind contracted the infection.**

**(i) What prevented Neeta catching cold and cough in spite of her exposure to**

**(ii) Which type of disease, she was suffering from.**

**(iii) Name two preventive measures against above type of disease.**

**(iv) Express your opinion, whether Ruchi was right in her decision of coming to school.**

**Ans. (i)** Her strong immune system.

**(ii)** Influenza (viral).

**(iii)** Isolation and hygiene.

**(iv)** No, Ruchi was not right as she suffered from a communicative disease.

**12. Preeti was down with an attack of bronchitis. The atmosphere was full of smoke and noise as diwali was nearing when her parents explained to the ill effects of burning crackers to neighbourhood kids. They agreed not to burn crackers anymore.**

**(i) It is observed that when a cracker is burnt its light reaches us first and then we hear its sound. Why?**

**(ii) Write any three ill-effects that Preeti' parents might have explained to kids.**

**(iii) Do you support kid's decision of not burning crackers, which qualities do you identify in those kids.**

**Ans.** (i) When cracker is burnt its light reaches us first and then we hear its sound as light travel faster than sound.

(ii) Ill effects of burning crackers:

(a) Causes pollution in the atmosphere.

(b) Its causes respiratory disorder

(c) Its creates noise pollution.

(iii) Yes, we support the kids decision as she positively shown her concern towards to "say no to crackers" and environment.