

Short Answer Questions-II (PYQ)

[3 Marks]

Q.1. Name a human disease, its causal organism, symptoms (any three) and vector, spread by intake of water and food contaminated by human faecal matter.

Ans.

i. Typhoid

- It is caused by pathogenic bacterium *Salmonella typhi*.
- It is spread by contaminated food and water.
- It generally enters the small intestine and then migrates to other organs through blood.
- Typhoid fever can be confirmed by Widal test.
- Mary Mallon, called Typhoid Mary, was a cook and a typhoid carrier who continued to spread the disease for several years through the food prepared by her, before it was discovered.

Symptoms

- a. Constant high fever (39°C to 40°C)
- b. Weakness
- c. Stomach pain
- d. Loss of appetite
- e. Constipation
- f. Headache
- g. Intestinal perforation and death may occur in severe cases.

ii. Amoebic dysentery (Amoebiasis)

- It is caused by an intestinal endoparasite, *Entamoeba histolytica*, found in large intestine of humans.
- Housefly acts as mechanical carrier and transmits the parasite from faeces of infected person to the food.
- Infection takes place through contaminated food and water.

Symptoms

- a. Abdominal pain
- b. Constipation
- c. Cramps
- d. Stool with excess mucous and blood clots.

iii. Filariasis/Elephantiasis

- It is caused by filarial worms, *Wuchereria bancrofti* and *Wuchereria malayi*.
- Female *Culex* mosquito is the vector.

Symptoms

- a. Inflammation of organs in which they live
- b. Blockage of lymph vessels of lower limbs resulting in swelling. Lower limbs appear like legs of elephant, thus the name.
- c. Genital organs may also be affected, leading to deformation.

Q.2. List the specific symptoms of typhoid. Name its causative agent.

Ans. Specific symptoms of typhoid are:

- i. Constant high fever (39° to 40°C)
- ii. Weakness
- iii. Stomach pain
- iv. Loss of appetite

Its causative agent is *Salmonella typhi*.

Q.3.

- a. Name the causative agent of typhoid in humans.
- b. Name the test administered to confirm the disease.
- c. How does the pathogen gain entry into the human body? Write the diagnostic symptoms and mention the body organ that gets affected in severe cases.

OR

Name the bacterium that causes typhoid. Mention two diagnostic symptoms. How is this disease transmitted to others?

Ans.

Typhoid

- It is caused by pathogenic bacterium *Salmonella typhi*.
- It is spread by contaminated food and water.
- It generally enters the small intestine and then migrates to other organs through blood.
- Typhoid fever can be confirmed by Widal test.
- Mary Mallon, called Typhoid Mary, was a cook and a typhoid carrier who continued to spread the disease for several years through the food prepared by her, before it was discovered.

Symptoms

- a. Constant high fever (39°C to 40°C)
- b. Weakness
- c. Stomach pain
- d. Loss of appetite
- e. Constipation
- f. Headache
- g. Intestinal perforation and death may occur in severe cases.

Q.4. Mention the name of the causal organism, symptoms and the mode of transmission of the disease Amoebiasis.

OR

- a. Name the protozoan parasite that causes amoebic dysentery in humans.
- b. Mention two diagnostic symptoms of the disease.
- c. How is this disease transmitted to others?

OR

- a. Name the agent that causes amoebiasis and the human body organ that it infects.
- b. Write the symptoms and the mode of transmission of the disease.

Ans. Amoebic dysentery (Amoebiasis)

- It is caused by an intestinal endoparasite, *Entamoeba histolytica*, found in large intestine of humans.
- Housefly acts as mechanical carrier and transmits the parasite from faeces of infected person to the food.
- Infection takes place through contaminated food and water.

Symptoms

- a. Abdominal pain
- b. Constipation
- c. Cramps
- d. Stool with excess mucous and blood clots.

Q.5. Name any two organisms that are responsible for ringworms in humans. Mention two diagnostic symptoms. Name the specific parts of the human body where these organisms thrive and explain why.

Ans. *Microsporum/Trichophyton/Epidermophyton*. Symptoms: Dry/scaly lesion on skin/nails/scalp, intense itching. These thrive in body groin or between toes. They thrive better in heat/moisture/perspiration.

Q.6.

- i. Write the scientific names of the two species of filarial worms causing filariasis.
- ii. How do they affect the body of infected person(s)?
- iii. How does the disease spread?

Ans. Filariasis/Elephantiasis

- It is caused by filarial worms, *Wuchereria bancrofti* and *Wuchereria malayi*.
- Female *Culex* mosquito is the vector.

Symptoms

- Inflammation of organs in which they live
- Blockage of lymph vessels of lower limbs resulting in swelling. Lower limbs appear like legs of elephant, thus the name.
- Genital organs may also be affected, leading to deformation.

Q.7. List the specific symptoms of pneumonia. Name the causative organism.

Ans. Specific symptoms of pneumonia are:

- fever,
- cough,
- headache,
- chills.

It is caused by *Streptococcus pneumoniae* and *Haemophilus influenzae*.

Q.8. Trace the life-cycle of malarial parasite in the human body when bitten by an infected female *Anopheles*.

Ans. *Plasmodium falciparum* is the malarial parasite.

Life cycle of Plasmodium

- Plasmodium requires two hosts to complete its life cycle—human and mosquito.
- The infected female *Anopheles* mosquito transfers the infectious form of Plasmodium, i.e., sporozoites to the human body by biting.
- The sporozoites reach the liver cells, where they multiply.
- This is followed by their attack on red blood cells resulting in their rupture.
- The ruptured RBCs release a toxin called haemozoin, which is responsible for high recurring fever, chills and shivering.
- These parasites enter the female *Anopheles* mosquitoes when they bite an infected person.
- In the body of mosquitoes, they fertilise and multiply in the stomach wall.
- Sporozoites are now stored in the salivary gland of mosquito till it is again transferred to human body by a mosquito bite. After entering the human body, all the events are repeated.

Q.9.

- Name the respective forms in which the malarial parasite gains entry into (i) Human body and (ii) Body of female *Anopheles*.

- b. Name the hosts where the sexual and the asexual reproductions of malarial parasites occur respectively.
- c. Name the toxin responsible for the appearance of symptoms of malaria in humans. Why do these symptoms occur periodically?

Ans.

- a.
 - i. Sporozoite
 - ii. Gametocytes.
- b. Sexual reproduction occurs in mosquito and asexual reproduction takes place in human body.
- c. Haemozoin. Parasites after entering the fresh RBCs take 48 to 72 hours to complete the erythrocytic cycle, rupturing the erythrocytes. They then burst to release toxic substance called haemozoin and the symptoms like chill and high fever occurs periodically

Q.10.

- a. Name the stage of *Plasmodium* that gains entry into the human body.
- b. Trace the stages of *Plasmodium* in the body of female *Anopheles* after its entry.
- c. Explain the cause of periodic recurrence of chill and high fever during malarial attack in humans.

Ans.

- a. *Plasmodium* enters the human body as sporozoites.
- b. When a female *Anopheles* mosquito bites an infected person, the parasites enter the mosquito's body and undergo further development. The parasites multiply within them to form sporozoites that are stored in salivary glands until their transfer to human body.
- c. The rupture of RBCs release a toxic substance called haemozoin, which is responsible for the chill and high fever recur.

Q.11. Explain the role of the following in providing defence against infection in human body:

Q. Histamines

Ans. Histamines: These are chemicals which cause inflammatory responses.

Q. Interferons

Ans. Interferons: These are glycoproteins which protect non-infected cells from further viral infection.

Q. B-cells

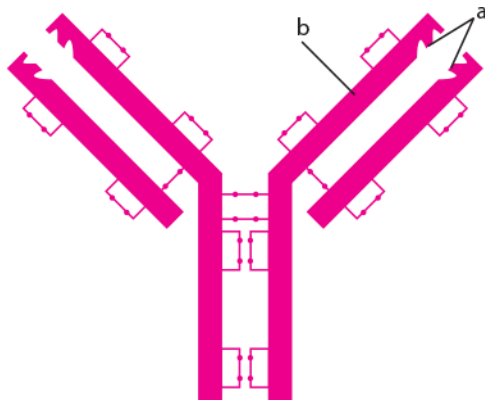
Ans. B-cells: These produce proteins called antibodies in response to pathogens into the blood to fight with them.

Q.12. Write the events that take place when a vaccine for any disease is introduced into the human body.

Ans. The vaccine contains proteins of pathogen or inactivated/weakened pathogen. When a dose of vaccine is introduced into the human body, it behaves as an antigen and the body produces antibodies in response to the antigen. This response generates active immunity. The antibodies thus produced will neutralise the pathogenic agents during actual infection. The vaccines also generate memory B- and T-cells that recognise the pathogen quickly on subsequent exposure and overwhelm the invaders with a massive production of antibodies.

Q.13.

- i. What does the given diagram illustrate?
- ii. Name the parts labelled 'a' and 'b'.
- iii. Name the type of cells that produce this molecule.



Ans.

- i. An antibody molecule
- ii. (a) Antigen binding site , (b) Heavy chain
- iii. B-lymphocytes (B-cells).

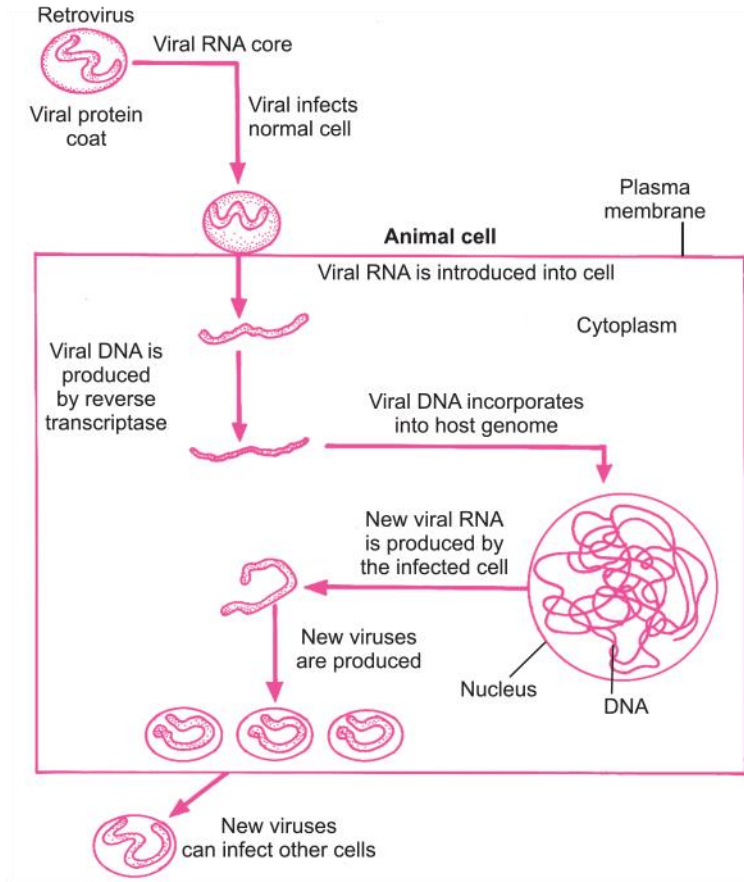
Q.14.

- a. What precaution(s) would you recommend to a patient requiring repeated blood transfusion?
- b. If the advise is not followed by the patient, there is an apprehension that the patient might contract a disease that would destroy the immune system of his/her body. Explain with the help of schematic diagram only how the immune system would get affected and destroyed.

Ans.

- a. A patient requiring repeated blood transfusion must ensure that the donor's blood has been screened for HIV and other pathogens before transfusion.

b.



Replication of retrovirus

Q.15. Name the cells HIV (Human Immunodeficiency Virus) gains entry into after infecting the human body. Explain the events that occur in these cells.

Ans. HIV virus gains entry into Macrophages and (Helper) T-lymphocytes after getting into the human body.

Events that occur in the cells are:

- Viral RNA forms DNA by reverse transcription using the enzymes reverse transcriptase and directs the infected cells to produce viral particles.
- Macrophages continue to produce viral particles and function as HIV factories.
- The viral particles simultaneously enters into helper T-lymphocytes, replicates and produce viral progenies.
- The number of T-lymphocytes progressively decreases in the body of the infected person.

- v. During this person suffers from bouts of fever, weight loss. Also decrease in the number of cells leads to weakening of immune system.

Q.16. A farmer while working on his farm was bitten by a poisonous snake. The workers in the farm immediately rushed him to the nearby health centre. The doctor right away gave him an injection to save his life. What did the doctor inject and why? Explain.

Ans. The doctor injected an antivenom. The antivenom contains preformed antibodies which when injected act on the pathogen immediately provide protection by providing passive immunity

Q.17.

- a. Why is there a fear amongst the guardians that their adolescent wards may get trapped in drug/alcohol abuse?
- b. Explain 'addiction' and 'dependence' in respect of drugs/alcohol abuse in youth.

Ans.

- a. Adolescents are easily affected by (or are vulnerable to) peer pressure. Curiosity, need for adventure and excitement, and experimentation constitute common causes for motivation. A child's natural curiosity motivates him/her to experiment. Television, movies, newspapers, internet also promote drug use.
- b. Addiction is the psychological attachment to certain effects such as euphoria or temporary feeling of well-being.
Dependence is the tendency of the body to show withdrawal syndrome or symptoms if regular doses of drug/alcohol is abruptly discontinued.

Q.18. Write the source and the effect on the human body of the following drugs:

Q. Morphine

Ans. Morphine: It is obtained from poppy plant *Papaver somniferum*. It binds to specific opioid receptors present in central nervous system and gastrointestinal tract.

Q. Cocaine

Ans. Cocaine: It is obtained from coca plant *Erythroxylum coca*. It interferes with the transport of the neurotransmitter dopamine.

Q. Marijuana

Ans. Marijuana: It is obtained from *Cannabis sativa*. It affects the cardiovascular system of the body.

Q.19. Answer the following questions:

Q. It is generally observed that the children who had suffered from chicken-pox in their childhood may not contract the same disease in their adulthood. Explain giving reasons the basis of such an immunity in an individual. Name this kind of immunity.

Ans. The first infection of chicken pox produces a primary response and antibodies are generated against chicken pox virus, subsequent encounter with the same virus elicits a highly intensified secondary response, due to the memory cells formed during the first encounter. This kind of an immunity is active immunity.

Q. What are interferons? Mention their role.

Ans. Proteins secreted by viral infected cells, which protects non-infected cells from viral infection are called interferons. When α -interferon is given to cancer patient it activates immune system and destroys tumour.

Q.20. Answer the following questions:

Q. All human beings have cellular oncogenes but only a few suffer from cancer disease. Give reasons.

Ans. All humans have cellular oncogenes or proto-oncogenes, but only a few suffer from cancer because cancer only occurs on activation of oncogenes. This activation is induced by carcinogens which can be physical, chemical or biological. The chemical carcinogens present in tobacco smoke have been identified as a major cause of lung cancer.

Q. How is a malignant tumour different from a benign tumour?

Ans.

Differences between types of tumours

S. No.	Benign tumour	Malignant tumour
(i)	It is a non-cancerous tumour.	It is a cancerous tumour.
(ii)	Benign tumour does not show metastasis and is non-invasive.	It shows metastasis and thus invades other body parts.
(iii)	It stops growth after reaching a certain size.	Malignant tumour shows indefinite growth.
(iv)	Limited adherence occurs amongst cells of benign tumour.	There is no adherence amongst cells. They tend to slip past one another.
(v)	It is less fatal to the body.	It is more fatal to the body.

Q.21. Answer the following questions:

Q. Name a drug used (i) as an effective sedative and pain killer (ii) for helping patients to copewith mental illnesses like depression, but often misused.

Ans.

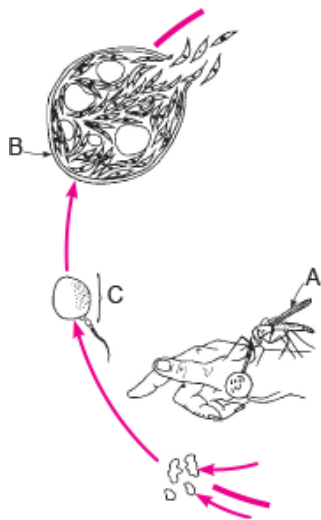
- i. Morphine
- ii. Lysergic acid diethyl amides (LSD).

Q. How does the moderate and high dosage of cocaine affect the human body?

Ans. Cocaine has a potent simulating action on central nervous system producing a sense of euphoria and increased energy. Excessive dosage of cocaine causes hallucinations.

Q.22. Study a part of the life cycle of malarial parasite given alongside. Answer the questions that follow:

- a. Mention the roles of 'A' in the life cycle of the malarial parasite.
- b. Name the event 'C' and the organ where this event occurs.
- c. Identify the organ 'B' and name the cells being released from it.



Ans.

- a. A—Gametocytes of *Plasmodium* enter the mosquito when it bites a malarial patient and feed on blood.
- b. C—Fertilisation. It occurs in the intestine of mosquito.
- c. B—Salivary gland of the female *Anopheles* mosquito. These release sporozoites of *Plasmodium*.

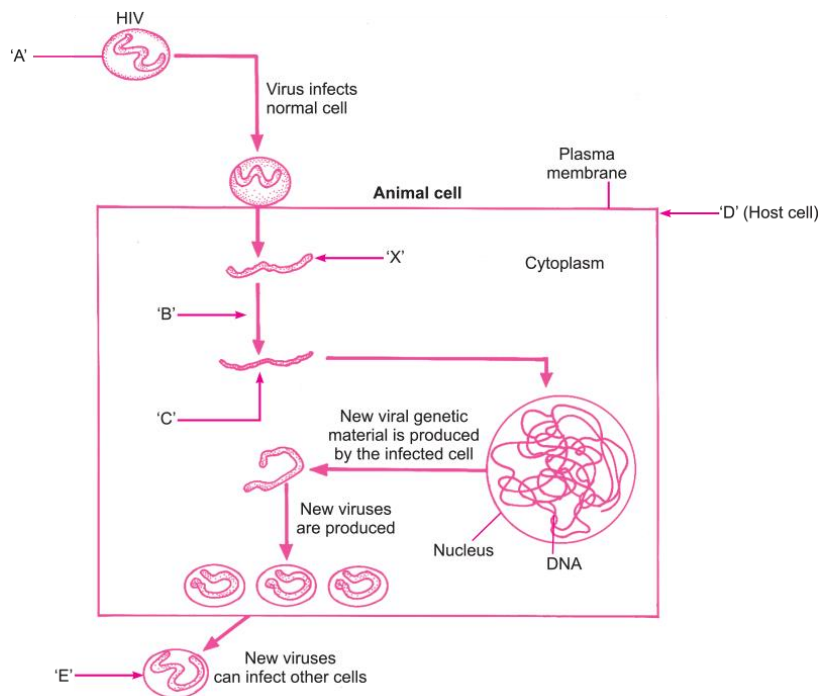
Q.23. On a visit to a Hill station, one of your friend suddenly become unwell and felt uneasy.

- List two symptoms you would look for the term it to be due to allergy.
- Explain the response of the body to an allergen.
- Name two drugs that can be recommended for immediate relief.

Ans.

- Sneezing, watery eyes, running nose and difficulty in breathing are symptoms of allergy. (*Any two*)
- In response to an allergen, the body releases antibodies of IgE type.
- Antihistamine, adrenalin, steroids. (*Any two*)

Q.24.



Study the diagram showing replication of HIV in humans and answer the following questions accordingly:

- Write the chemical nature of the coat 'A'.
- Name the enzyme 'B' acting on 'X' to produce molecule 'C'. Name 'C'.
- Mention the name of the host cell 'D' the HIV attacks first when it enters into the human body.
- Name the two different cells that the new viruses 'E' subsequently attack.

Ans.

- Coat 'A' is made up of protein.
- The enzyme 'B' is reverse transcriptase, 'C' is viral DNA.
- The host cell 'D' is macrophage.

- iv. The new viruses 'E' subsequently attack macrophages and helper T-lymphocytes.

Q.25. During a school trip to 'Rohtang Pass', one of your classmate suddenly developed 'altitude sickness'. But, she recovered after sometime.

- Mention one symptom to diagnose the sickness.**
- What caused the sickness?**
- How could she recover by herself after sometime?**

Ans.

- Nausea/fatigue/heart palpitation
- The sickness was caused due to low atmospheric pressure at high altitude because of which the body was deprived of oxygen.
- The body compensates low oxygen availability by increasing RBC production decreasing the binding capacity of haemoglobin and by increasing breathing rate.

Q.26. Prior to a sports event, blood and urine samples of sports persons are collected for drug tests.

- Why is there a need to conduct such tests?**
- Name the drugs the authorities usually look for.**
- Write the genetic names of two plants from which these drugs are obtained.**

Ans.

- Such tests are conducted to detect drug abuse to ensure fair game.
- The authorities look for cannabinoids, cocaine, coca alkaloid, coke, crack, hashish, *charas*, *ganja* and hemp plant extract.
- These drugs are obtained from *Cannabis*, *Atropa*, *Erythroxylum*, *Datura*.

Q.27. A heavily bleeding bruised road accident victim was brought to a nursing home. The doctor immediately gave him an injection to protect him against a deadly disease.

- Write what did the doctor inject into the patient's body.**
- How do you think this injection would protect the patient against the disease?**
- Name the disease against which this injection was given and the kind of immunity it provides.**

Ans.

- Tetanus antitoxins/Tetanus toxoid.

- b. The preformed antibody injected act on the pathogen immediately to provide protection.
- c. This injection was given against tetanus and it provides passive immunity.

Q.28. A team of students are preparing to participate in the interschool sports meet. During a practice session you find some vials with labels of certain cannabionoids..

- a. Will you report to the authorities? Why?
- b. Name a plant from which such chemicals are obtained.
- c. Write the effect of these chemicals on human body.

Ans.

- a. Yes. Because these may be abused by sports person.
- b. *Cannabis* (sativa)
- c. Effects cardiovascular system of the body.

Q.29. A group of youth were having a 'rave party' in an isolated area and was raided by police. Packets of 'smack' and syringes with needles were found littered around.

- a. Why is taking 'smack' considered an abuse?
- b. Write the chemical name of 'smack' and the name of its source plant.
- c. Syringes and needles used by the youth for taking the drug could prove to be very fatal. Why?

Ans.

- a. Taking smack is considered as abuse because it is highly addictive. It is a depressant and slows down body functions. It causes psychological and physical dependance.
- b. Its chemical name is diacetylmorphine and is obtained from poppy plant, *Papaver Somniferum*.
- c. Drugs taken intravenously (direct injection into the vein using a needle and syringe) are much likely to acquire serious infections like AIDS and hepatitis B. The viruses, which are responsible for these diseases are transferred from one person to another by sharing infected needles and syringes.

Short Answer Questions-II (OIQ)

[3 Marks]

Q.1.

- What is an 'allergic reaction'?
- Name any two drugs used to quickly reduce the symptoms of allergy.
- Why do more and more children in metro cities of India suffer from allergies and asthma?

Ans.

- The exaggerated response of the immune system to certain antigens present in the environment is called allergic reaction.
 - Anti-histamine, adrenaline, steroids.
- [Any two]**
- In metro cities, due to deteriorating air quality the sensitivity to the environment and allergens have increased in children. This has resulted in lowering of immunity due to modern day lifestyle.

Q.2. To which category of cells do B-cells and T-cells belong? How do they differ from each other with reference to their formation and response to antigens?

Ans.

B-cells and T-cells belong to the category of lymphocytes, *i.e.*, leucocytes (WBC).

S. No.	B-lymphocytes	T-lymphocytes
(i)	They mature in bone marrow.	They mature in thymus gland.
(ii)	They produce antibody against antigen.	They directly attach the antigen or direct B-cells to produce antibody.
(iii)	They do not respond to organ transplantation.	They respond to organ transplantation.

Q.3. What is the basic principle of vaccination? How do vaccines prevent microbial infections? Name the organism from which hepatitis B vaccine is produced.

Ans. Principle of vaccination is based on the property of 'memory' of immune system. In vaccination, a preparation of antigenic proteins of pathogens or inactivated/live but weakened pathogens is introduced into the body. The antigens generate primary immune response by producing antibodies along with forming memory B-cells and T-cells. When the vaccinated person is attacked by the same pathogens, second time/subsequent time the existing memory B-cells and T-cells recognise the antigen and overwhelm the invaders with massive production of lymphocytes and antibodies. Hepatitis B vaccine is produced from yeast.

Q.4. A person has been diagnosed to be HIV⁺.

- i. Name the disease and the test which the person has to undergo.
- ii. Write the full name of the pathogen involved and describe its structure.
- iii. Which particular cells of this person are likely to get destroyed?

OR

The immune system of a person is suppressed. In the ELISA test, he was found positive to a pathogen.

- a. Name the disease the patient is suffering from.
- b. What is the causative organism?
- c. Which cells of the body are affected by the pathogen?

Ans.

- i. Name of the disease is AIDS and the test is ELISA — Enzyme Linked Immuno-Sorbent Assay.
- ii. Human Immunodeficiency Virus.

Structure of HIV:

- a. It has an envelope enclosing the genetic material which is single stranded RNA.
- b. The envelope has spikes with receptors capable of recognising antigen receptors found on helper T-cells.
- iii. It affects/destroys helper T-cells.

Q.5. When someone buys packets of cigarettes, cannot miss the statutory warning that is present on the packing which warns against smoking and says how it is injurious to health. Yet, smoking is very prevalent in our society, both among young and old. Advise the adolescents about the importance of avoiding smoking. (Mention any six points.)

Ans.

- i. Tobacco in cigarettes contains a large number of chemical substances including nicotine, an alkaloid. Nicotine stimulates adrenal gland to release adrenaline and nor-adrenaline into blood circulation, both of which raise blood pressure and increase heart rate.
- ii. Smoking is associated with increased incidence of cancers of lung, urinary bladder, throat and oral cavity.
- iii. It is responsible for bronchitis and emphysema.
- iv. It is associated with increased risk of coronary heart disease, gastric ulcer, etc.

- v. Smoking increases carbon monoxide (CO) content in blood and reduces the concentration of haem-bound oxygen. This causes oxygen deficiency in the body.

Q.6. Many microbial pathogens enter the gut of humans along with food. What are the preventive barriers to protect the body from such pathogens? What type of immunity do you observe in this case?

Ans. Preventive barrier to protect body are:

- i. The mucus coating of the epithelium lining of the gut helps in trapping microbes entering the body.
- ii. Saliva in the mouth and hydrochloric acid in gastric juice secreted by stomach prevent microbial growth.

This type of immunity is innate immunity.

Q.7. A person shows strong unusual hypersensitive reactions when exposed to certain substances present in the air, identify the condition. Name the cells responsible for such reactions. What precaution should be taken to avoid such reactions.

Ans. The condition is called allergy. Mast cells are responsible for such reactions. To avoid such reactions following precautions must be taken.

- i. Use of drugs like antihistamine, adrenaline and steroids quickly reduces the symptoms.
- ii. Avoid contact with substances to which a person is hypersensitive.

Q.8. Name the type and give the effect of the following drugs in human.

Q. LSD

Ans. LSD: It is a hallucinogen. It affects the cerebrum and sense organs, changing the feelings, thoughts and perceptions of an individual.

Q. Morphine

Ans. Morphine: It is opiate narcotic. It suppresses the normal functioning of brain and relieve intense pain but temporarily.

Q. Barbiturates

Ans. Barbiturates: It is a sedative and tranquiliser. It suppresses brain's activity and creates a feeling of relaxation, drowsiness and sleepiness.

Q.9. Your classmate complains of headache and cough. The doctor confirms that he is suffering from Pneumonia and not common cold, on the basis of certain

symptoms. List these symptoms. Mention any two precautions to be followed to prevent the spread of this disease.

Ans. Doctor confirms pneumonia on the basis of the following symptoms— fever/chills/grey-blue lips and finger nails (*any two*).

It is not common cold as the following symptoms are not observed - Nasal congestion/sore throat/ hoarseness (*any two*).

Precautions to be followed are:

- i. Cover the nose when near the patient.
- ii. Do not share glasses and utensils or articles used by the infected person.

Q.10. A person is born with a hereditary disease with a weakened immune system due to deficiency of an enzyme. Suggest a technique for complete cure for this disease, identify the deficient enzyme and explain the technique used for cure.

Ans. Gene therapy can completely cure this disease.

The disease is due to ADA (Adenosine deaminase) deficiency.

Lymphocytes from the blood of the patient are grown in a culture. A functional ADA cDNA is introduced into these lymphocytes, which are subsequently returned to the patient. The permanent cure is done by introducing ADA cDNA into cells at early embryonic stages.

Q.11. A doctor prescribed morphine as a sedative and pain killer to your cousin who had undergone surgery. Even after recovery, he craved for the prescribed medicine. What do you conclude about his condition, had he continued with the same medication? After appraising yourself, what measures will you suggest to him to overcome this problem? Briefly explain any two.

Ans. His condition is drug dependence. It is the tendency of the body to manifest a characteristic and unpleasant withdrawal syndrome if regular dose of drugs is abruptly discontinued. Because of perceived benefits, drugs are frequently used repeatedly from which the person may not be able to get out.

Following measures can be taken to overcome this problem:

- i. Education and counseling to face problems and stresses and to channelise the energy into healthy pursuits like reading, music, yoga and other extracurricular activities.
- ii. Seeking help from parents to guide the person appropriately and immediately.
- iii. Seeking professional and medical help to the person to get rid of the problem completely with sufficient efforts and will power (*any two*).

Q.12. Tobacco smoking, chewing or snuffing is very injurious to health of humans. Justify.

Ans. Tobacco contains nicotine. It stimulates the adrenal gland to release adrenaline and noradrenaline, which raises blood pressure and increases heart rate. This results in increased incidence of cancer of lungs urinary bladder and throat, bronchitis/emphysema/coronary heart disease/ gastric ulcer etc. It also increases carbon monoxide content in blood and reduces concentration of haembound oxygen.

Q.13. Answer the following questions:

Q. What is meant by addictive disorder?

Ans. It is a disorder with psychological attachment to certain effects such as euphoria and a temporary feeling of well-being associated with drug and alcohol. In this disorder, body continuously require these drugs even when they are not needed.

Q. Name any two opiate narcotics.

Ans. Heroin and morphine.

Q. Mention any two ways how opiate narcotics affect human body.

Ans.

- a. They suppress the brain function and reduce tension.
- b. Heroin is a depressant.