CHAPTER 8

HUMAN HEALTH AND DISEASES

MULTIPLE-CHOICE QUESTIONS

1. The term 'Health' is defined in many ways. The most accurate definition of the health would be:
   a. Health is the state of body and mind in a balanced condition
   b. Health is the reflection of a smiling face
   c. Health is a state of complete physical, mental and social well-being
   d. Health is the symbol of economic prosperity.

2. The organisms which cause diseases in plants and animals are called:
   a. Pathogens
   b. Vectors
   c. Insects
   d. Worms

3. The clinical test that is used for diagnosis of typhoid is:
   a. ELISA
   b. ESR
   c. PCR
   d. Widal

4. Diseases are broadly grouped into infectious and non-infectious diseases. In the list given below, identify the infectious diseases.
   i. Cancer
   ii. Influenza
   iii. Allergy
   iv. Small pox
   (a) i and ii (b) ii and iii (c) iii and iv (d)ii and iv

5. The sporozoites that cause infection when a female *Anopheles* mosquito bites a person, are formed in:
   a. liver of the person
   b. RBCs of mosquito

c. salivary glands of mosquito
d. gut of mosquito

6. The disease *chikunguniya is* transmitted by:
   a. house fly
   b. *Aedes* mosquito
   c. cockroach
   d. female *Anopheles*

7. Many diseases can be diagnosed by observing the symptoms in the patient. Which group of symptoms are indicative of pneumonia?
   a. Difficulty in respiration, fever, chills, cough, headache
   b. Constipation, abdominal pain, cramps, blood clots
   c. Nasal congestion and discharge, cough, constipation, headache
   d. High fever, weakness, stomach pain, loss of appetite and constipation

8. Cancer causing genes are called:
   a. structural genes
   b. expressor genes
   c. oncogenes
   d. regulatory genes

9. In malignant tumors, the cells proliferate, grow rapidly and move to other parts of the body to form new tumors. This stage of disease is called:
   a. metagenesis
   b. metastasis
   c. teratogenesis
   d. mitosis

10. When an apparently healthy person is diagnosed as unhealthy by a psychiatrist, the reason could be that:
   a. the patient was not efficient at his work
   b. the patient was not economically prosperous
   c. the patient shows behavioural and social maladjustment
   d. he does not take interest in sports

11. Which of the following are the reason(s) for Rheumatoid arthritis? Choose the correct option.
   i. The ability to differentiate pathogens or foreign molecules from self cells increases.

ii. Body attacks self cells
iii. More antibodies are produced in the body
iv. The ability to differentiate pathogens or foreign molecules from self cells is lost

(a) i and ii (b) ii and iv (c) iii and iv (d) i and iii

12. AIDS is caused by HIV. Among the following, which one is not a mode of transmission of HIV?
    a. Transfusion of contaminated blood
    b. Sharing the infected needles
    c. Shaking hands with infected persons
    d. Sexual contact with infected persons

13. 'Smack' is a drug obtained from the:
    a. latex of *Papaver somniferum*
    b. leaves of *Cannabis sativa*
    c. flowers of *Dhatura*
    d. fruits of *Erythroxyl coca*

14. The substance produced by a cell in viral infection that can protect other cells from further infection is:
    a. serotonin
    b. colostrum
    c. interferon
    d. histamine

15. Transplantation of tissues/organs to save certain patients often fails due to rejection of such tissues/organs by the patient. Which type of immune response is responsible for such rejections?
    a. auto-immune response
    b. humoral immune response
    c. physiological immune response
    d. cell-mediated immune response

16. Antibodies present in colostrum which protect the new born from certain diseases is of
    a. Ig G type
    b. Ig A type
    c. Ig D type
    d. Ig E type

17. Tobacco consumption is known to stimulate secretion of adrenaline and nor-adrenaline. The component causing this could be:
    a. Nicotine
    b. Tannic acid
    c. Curamin
    d. Catechin

18. Antivenom against snake poison contains:
    a. Antigens
    b. Antigen-antibody complexes
    c. Antibodies
    d. Enzymes

19. Which of the following is not a lymphoid tissue?
    a. Spleen
    b. Tonsils
    c. Pancreas
    d. Thymus

20. Which of the following glands is large sized at birth but reduces in size with ageing?
    a. Pineal
    b. Pituitary
    c. Thymus
    d. Thyroid

21. Haemozoin is a:
    a. precursor of hemoglobin
    b. toxin released from *Streptococcus* infected cells
    c. toxin released from *Plasmodium* infected cells
    d. toxin released from *Haemophilus* infected cells

22. Which of the following is not the causal organism for ringworm?
    a. *Microsporum*
    b. *Trichophyton*
    c. *Epidermophyton*
    d. *Macrosporum*

23. A person with sickle cell anemia is
    a. more prone to malaria
    b. more prone to typhoid
    c. less prone to malaria
    d. less prone to typhoid

VERY SHORT ANSWER TYPE QUESTIONS

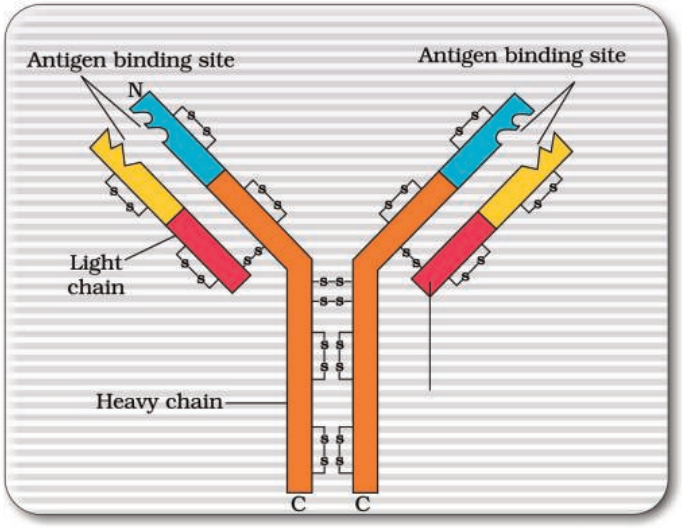
1. Certain pathogens are tissue/organ specific. Justify the statement with suitable examples.
2. The immune system of a person is suppressed. In the ELISA test, he was found positive to a pathogen.
    a. Name the disease the patient is suffering from.
    b. What is the causative organism?
    c. Which cells of body are affected by the pathogen?
3. Where are B-cells and T-cells formed? How do they differ from each other?
4. Given below are the pairs of pathogens and the diseases caused by them. Which out of these is not a matching pair and why?

(a)	Virus	common cold
(b)	*Salmonella*	typhoid
(c)	*Microsporum*	filariasis
(d)	*Plasmodium*	malaria

5. What would happen to immune system, if thymus gland is removed from the body of a person?
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?
7. Why is mother's milk considered the most appropriate food for a new born infant?
8. What are interferons? How do interferons check infection of new cells?

9. In the figure, structure of an antibody molecule is shown. Name the parts A, B and C.

Show A, B and C in the diagram.



10. If a regular dose of drug or alcohol is not provided to an addicted person, he shows some withdrawal symptoms. List any four such withdrawal symptoms.

11. Why is it that during changing weather, one is advised to avoid closed, crowded and airconditioned places like cinema halls etc.?

12. The harmful allele of sickle cell anemia has not been eliminated from human population. Such afflicted people derive some other benefit. Discuss.

13. Lymph nodes are secondary lymphoid organs. Explain the role of lymph nodes in our immune response.

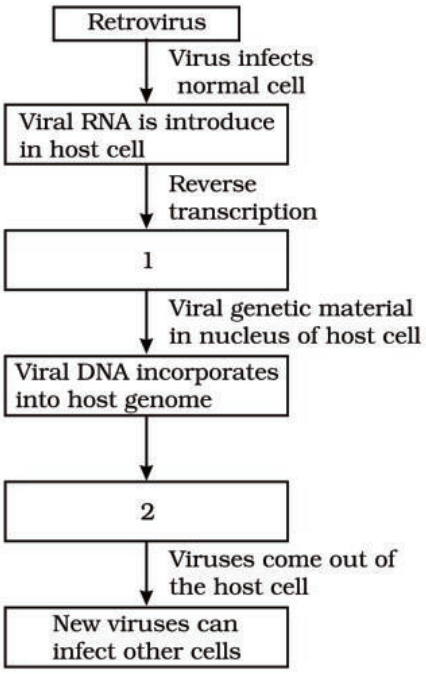
14. Why is an antibody molecule represented as H_2L_2?

15. What does the term `memory' of the Immune system mean?

16. If a patient is advised Anti Retroviral Therapy, which infection is he suffering from? Name the causative organism.

SHORT ANSWER TYPE QUESTIONS

1. Differentiate between active immunity and passive immunity.
2. Differentiate between benign tumor and malignant tumor.
3. Do you consider passive smoking is more dangerous than active smoking? Why?
4. "Prevention is better than cure". Comment.
5. Explain any three preventive measures to control microbial infections.
6. In the given flow diagram, the replication of retrovirus in a host is shown. Observe and answer the following questions.
   a. Fill in (1) and (2)
   b. Why is the virus called retrovirus?
   c. Can the infected cell survive while viruses are being replicated and released?

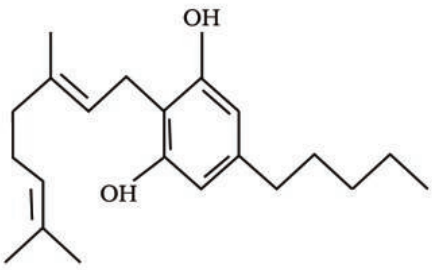


7. "Maintenance of personal and public hygiene is necessary for prevention and control of many infectious diseases". Justify the statement giving suitable examples.

8. The following table shows certain diseases, their causative organisms and symptoms. Fill the gaps.

	Name of the Disease	Causative organism	Symptoms
(i)	Ascariasis	*Ascaris*	____
(ii)	____	*Trichophyton*	Appearance of dry, scaly lesions on various parts of the body
(iii)	Typhoid	____	High fever, weakness, headache, stomach pain, constipation.
(iv)	Pneumonia	*Streptococcus pneumoniae*	____
(v)	____	*Rhino viruses*	Nasal congestion and discharge, sorethroat, cough, headache
(vi)	Filariasis	____	Inflammation in lower limbs

9. The outline structure of a drug is given below.
   a. Which group of drugs does this represent?
   b. What are the modes of consumption of these drugs?
   c. Name the organ of the body which is affected by consumption of these drugs.



10. Give the full form of CT and MRI. How are they different from each other? Where are they used?

11. Many secondary metabolites of plants have medicinal properties. It is their misuse that creates problems. Justify the statement with an example.

12. Why cannabinoids are banned in sports and games?
13. What is secondary metabolism?
14. Drugs and alcohol give short-term 'high' and long-term 'damages', Discuss.
15. Diseases like dysentery, cholera, typhoid etc., are more common in over crowded human settlements. Why?
16. From which plant cannabiniods are obtained? Name any two cannabinoids. Which part of the body is effected by consuming these substances?
17. In the metropolitan cities of India, many children are suffering from allergy/asthma. What are the main causes of this problem. Give some symptoms of allergic reactions.
18. What is the basic principle of vaccination? How do vaccines prevent microbial infections? Name the organism from which hepatitis B Vaccine is produced.
19. What is cancer? How is a cancer cell different from the normal cell? How do normal cells attain cancerous nature?
20. 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.
21. For an organ transplant, it is an advantage to have an identical twin. Why?
22. What are lifestyle diseases? How are they caused? Name any two such diseases.
23. If there are two pathogenic viruses, one with DNA and other with RNA, which would mutate faster? And Why?

LONG ANSWER TYPE QUESTIONS

1. Represent schematically the life cycle of a malarial parasite.
2. Compare the life style of people living in the urban areas with those of rural areas and briefly describe how the life style affects their health.
3. Why do some adolescents start taking drugs. How can this be avoided?
4. In your locality, if a person is addicted to alcohol, what kind of behavioural changes do you observe in that person? Suggest measures to over come the problem.

5. What are the methods of cancer detection? Describe the common approaches for treatment of cancer.

6. Drugs like LSD, barbiturates, amphetamines, etc., are used as medicines to help patients with mental illness. However, excessive doses and abusive usage are harmful. Enumerate the major adverse effects of such drugs in humans.

7. What is Pulse Polio Programme of Government of India? What is OPV? Why is it that India is yet to eradicate Polio?

8. What are recombinant DNA vaccines? Give two examples of such vaccines. Discuss their advantages.