



## BIOLOGY

# BOOKS - NEW JYOTHI BIOLOGY (TAMIL ENGLISH)

## HUMAN HEALTH AND DISEASE

### Ncert Text Book Questions

1. What are the various public health measures, which you would suggest as

safeguard against infectious diseases?



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2. In which way has the study of biology helped us to control infectious diseases?



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3. How does the transmission of each of the following diseases take place?

a. Amoebiasis   b. Malaria   c. Ascariasis   d.  
Pneumonia



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4. What measure would you take to prevent water-borne diseases?



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5. Discuss with your teacher what does 'a suitable gene' means, in the context of DNA

vaccines.



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6. Name the primary and secondary lymphoid organs.



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7. The following are some well-known abbreviations, which have been used in this

chapter. Expand each one to its full form.

a. MALT b. CMI c. AIDS d. NACO e. HIV



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**8.** Differentiate the following and give examples of each.

a. Innate and acquired immunity

b. Active and passive immunity



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**9.** Draw a well-labelled diagram of an antibody molecule.



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**10.** What are the various routes by which transmission of human immuno deficiency virus takes place ?



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**11.** What is the mechanism by which the AIDS virus causes deficiency of immune system of the infected person?



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**12.** How is a cancer cell different from a normal cell ?



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**13.** What is metastasis ?



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**14.** List the harmful effects caused by alcohol/drug abuse.



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**15.** Do you think that friends can influence one to take alcohol/drugs? If yes, how may one



protect himself/herself from such an influence?



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**16.** Once a person starts taking drugs or alcohol it is difficult to get rid of the habit.

Why ?



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**17.** In your view what motivates youngsters to take to alcohol or drugs and how can this be avoided?



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## **New Evaluation Type Questions**

**1.** In the past Indian Ayurvedic system considered that the persons having black bile would have fever.

- a. Name the person who is considered as the father of medicine.
- b. What made the change in the belief of having black bile during fever?
- c. Who was the person behind this discovery?



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2. Who is a healthy person according to you?  
What affects the health generally?



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### 3. Complete the following



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4. Typhoid is caused by the attack of salmonella typhi.

a. Is this a virus or bacteria?

b. Which part of the body is affected by this disease?

c. Name the test used for the diagnosis.

d. Who is Typhoid Mary?



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5. Antigen - antibody reaction is a specific reaction. Justify your answer.



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6. "AIDS and cancer are caused by ignorance". Anil said to his classmates. Do you agree with the statement?



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7. Prepare a poster against smoking to exhibit in your school.



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8. Taking little amount of alcohol is good to health. Do you agree with this statement?



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9. A dog bites his own master. Sometimes in human body this type of action takes place.

a. Name the disease.

b. Give symptoms for this disease.



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10. What is the importance of MALT in human health and disease?



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**11.** Now-a-days more than 40% of the young people use drugs, panmasala, cigarettes etc. There is also an alarming increase in the use of psychedelic drugs by the adolescents. In view of this prepare an article showing the after effects of drug use and its social implications in the community.



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**12.** Some drugs when taken for a long time cause addiction.



a. What is withdrawal symptom?

b. How can you prevent the addiction?



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**13.** Drugs are habit forming substances. They react with the nervous system affecting individual physically and mentally.

a. Distinguish between psychotropic drugs and psychedelic drugs.

b. Name the source of opium.

c. What do you mean by withdrawal symptoms?



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**14.** How can you prevent your best friend from becoming a drug addict who has started taking drug?



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**15.** AIDS is a disorder in which the immune mechanism of the body of a patient gets suppressed.

a. What pathogen is responsible for it?

b. Who discovered the pathogen for the first time?

c. Mention the major symptoms of that disorder.



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**16.** Mention single word for the following.

a. Spread of cancer cells to a distant site.

b. Abnormal sensitivity to any substance.

c. Cancer inducing substances.

d. Non-specific proteins preventing virus multiplication.



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**17.** Correct the table



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**18.** Identify the structure



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**19.** C - Change in bowel or bladder

A- A sore which does not heal

U - Unusual bleeding or discharge

T - Thickening or lump in the breast or elsewhere

I - Indigestion or difficulty in swallowing

O- Obvious change in wart or mole

N - Nagging cough

These are the symptoms of a disease.

a. Name the disease.

b. What is oncology?

c. What are oncogenes?



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**20.** Hints given in the following table on cancer and the tissues are wrongly arranged.

Copy the table and arrange it in correct order.



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**21.** Cancer can be cured completely by using chemotherapy.

a. Is this statement true?

b. What is chemotherapy?

c. Name any other five types of treatment against cancer.



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22. The diagram shows an important event taking place in an animal body.



- a. Identify the process.
- b. What are interferons?
- c. How do the interferons prevent virus multiplication?



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**23.** It is said that 'Chikunguinea' once affected will not affect a person in the next half of his life. As a student of biology, can you justify this statement



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**24.** In 1974, WHO officially launched a global immunisation programme for children to protect them against six preventable diseases. The following diagram shows the vaccination

of the disease.



a. Name the disease.

b. Name the vaccine.

c. Mention the times for vaccination scheduled by WHO.



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**25.** In the case of certain diseases like mumps, measles and chicken pox, the secondary immune response gives a life long immunity. Give the scientific reason behind this.



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26. Copy and complete the flow chart on immunity .



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27. Copy the diagram and label the following parts. heavy chain, light chain and specific antigen binding site.





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28. 

a . Identify the personality .

b. What are his contributions to science ?



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29. Match the following .



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**30.** Mention the types of malaria caused by the following species of plasmodium

- i. *Plasmodium vivax*
- ii. *Plasmodium malariae*
- iii. *Plasmodium ovale*
- iv. *Plasmodium falciparum*



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**31.** Name the fungi causing ringworms in man.



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**32.** Name the causative organisms of typhoid fever. Mention the symptoms and the test which is used for detecting typhoid fever.



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**33.** For the detection of filariasis, blood is taken only between 10 pm and 5 am. Give reason.



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**34.** Plasmodium vivax is a digenetic parasite.

Justify your answer.



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**35.** Smoking is injurious to health'. This is the slogan seen in all cigarette packets.

a. As said above "is smoking injurious to health?"

b. Name the toxic alkaloid seen in it.

c. Give some consequences a smoker has to face in the future.



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**36.** The science club in your school has decided to organise a street play aiming at giving public awareness against AIDS.

a. Mention the important characters performing in this play.

b. State the major ideas you are going to convey through the play.





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**37.** Observe the following structure and answer the questions.



- a. Identify the chemical structure .
- b. Name the source .
- c. Name the organ which it affects .



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**38.** Expand ELISA.



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**39.** 'Human life is a battle field.' Justify the statement.



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**40.** "It is dangerous to take drugs without prescription of a doctor at early months of pregnancy". Comment on this statement.



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**41.** A doctor noticed a small internal growth in the abdomen of a patient. He suspected it as a cancer.

a. Which biomedical technique enabled the doctor to diagnose the disease?

b. Suggest the methods to treat this disease.



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**42.** A doctor detected a tumour in the body of a person. The patient feels that he would die

soon due to tumour. How can you help him to overcome his fear?. Write your response.



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**43.** "The soldiers of a country kill their own king". Similar situation takes place in our body. Find out that process.



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**Question From Edumate**

1. Observe the cartoon given below.

Scene I



It is used to explain a particular type of immunization.

a. Which type of immunization is represented in the cartoon?

b. What is the principle behind this immunization?



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2. Design a role play in which five classes of immunoglobulins show different functions to provide immunity to human body.

(Hint: Give at least one dialogue showing the function for each class of immunoglobulin. In addition to these five members, human body, patho gens, p cells etc. may be involved in the role play).



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3. The graph given below shows the responses of the attack of an influenza virus in a patient repeatedly during the interval of 40 days.



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4. There are many different strains of rhinoviruses, which cause common cold. State why people are suffering from common cold several times within two or three months.



5. Observe the given table and answer the following questions.



- a. What is the difference in time before antibodies appear in the blood in the case of active and passive immunity?
- b. Chicken pox doesn't cure faster when compared to common cold. Why?
- c. Explain why active and passive immunity differ in the nature of protection.





6. The graph below shows the development of an infection with HIV (Human Immuno Deficiency Virus) over a period of 10 years. Changes in the number of a type of  $T_4$  (lymphocyte) cells are also shown.



- i. Describe the changes in the number of HIV particles over the 10 years period.
- ii. Describe the two ways in which the curve for the  $T_4$  cells differ from that for the HIV particles.
- iii. Suggest

an explanation for the difference between the number of  $T_4$  cells in the blood and the number of HIV particles over the period.



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## Previous Year Hse Questions

1. Teenages are interested in peer activities. During a study tour, one of your friends offer you an alcoholic drink. Explain to him/her the bad effects of drinking.



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2. Choose the correct answer. When a population reaches carrying capacity

- A. Mortality rate = birth rate
- B. Mortality rate  $>$  birth rate
- C. Mortality rate  $<$  birth rate
- D. None of these

**Answer:**



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3. A person suspected to have cancer had the affected tissue sent for biopsy. The results showed malignancy. Comment on it.



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4. Fill in the blanks

Carcinoma : Epithelial tissue :: ..... : Muscular tissue.



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5. Observe the illustration given below and fill it appropriately.



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6. If you are requested to prepare a list of equipments for a newly constructed cancer diagnostic centre, what are all the equipments would you list? How are these useful for cancer diagnosis?



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7. For the Red Ribbon Programme, Indian Railway invited the health club of your school to present a street play.

[Hint : Red Ribbon Programme is concerned with AIDS.]

- a. Mention the important characters performing in this play.
- b. What are the objectives of this programme?



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8. The voluntary organization in your town approaches you to suggest some Bio - medical equipments to be exhibited in their campaign on  
CANCER : PREVENTION  
DETECTION AND REMEDY.

List 4 equipments and their specific purpose that you may suggest.



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9. A lady with pregnancy of 1st trimester had a road accident with a mild injury on her left arm and forehead. She rushed to a nearby hospital. The doctor immediately advised to have some biomedical diagnosis.

- a. Mention any three major biomedical equipments used for the above diagnosis.
- b. Justify the selection of these equipments for the diagnosis.



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**10.** "More and more children in metro cities of India suffer from allergies and asthma."

- a. Do you agree with this statement?
- b. Justify your answer.



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**11.** The flowchart given below represents the life cycle of malarial parasite. Complete the flowchart and answer the following.



- a. Which species of malarial parasite causes

malignant malaria?

b. Can you suggest two methods to control malaria?



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**12.** The list given below includes various stages of HIV infection. Arrange them according to correct sequence

Viral replication - Macrophage - Helper T cell -  
Formation of DNA - Progeny virus - Viral particle -  
Release of progeny virus.



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## Previous Year Competitive Exam Questions

1. ELISA is used to detect viruses where the key reagent is

A. catalase

B. DNA probe

C. RNase

D. Alkaline phosphatase

**Answer: D**



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**2. Carcinoma refers to**

A. malignant tumours of the skin or mucous membrane

B. malignant tumours of the colon

C. benign tumours of the connective tissue

D. malignant tumours of the connective tissue

**Answer: A**



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3. The rejection of organ transplanting in humans is prevented from

A. aspirin

B. cyclosporin

C. calcitonin

D. thrombin

**Answer: B**



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4. Proliferation of cancer cells is not limited because of

A. differing surface proteins

B. differing cholesterol level

C. deficiency of steroids

D. aberrant chromosomal complement

**Answer: A**



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5. Drugs that cause malformations in embryo during pregnancy are called

A. tranquiliser

B. teratogens

C. alcoholic beverages

D. nicotin

**Answer: B**



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**6. LSD is obtained from**

A. Erythroxyton coca

B. Papaver somniferum

C. Cannabis sativus



D. Claviceps purpurea

**Answer: D**



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7. The agent of AIDS disease is

A. bacterium

B. fungus

C. nematode

D. virus

**Answer: D**



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**8. Carcinoma is a cancer of**

A. connective tissue

B. white blood cells

C. lymphocytes

D. ectoderm and endoderm

**Answer: D**



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9. AIDS is caused by

A. Varicella virus

B. Rubeola virus

C. Human immunodeficiency virus

D. *Corynebacterium diphtheriae*

**Answer: C**



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**10.** The treatment of cancer with X-ray or gamma rays is called

A. radiation therapy

B. surgery

C. chemotherapy

D. hormone therapy

**Answer: A**



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11. Southern blot technique is related to

A. DNA profiling

B. widal test

C. ELISA test

D. blood test

**Answer: A**



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12. Drugs which induce dreamy state of consciousness are called

A. sedative

B. stimulant

C. depressants

D. hallucinogen

**Answer: D**



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13. Narcotic drug like charas, bhang and ganja are extracted from

A. hemp plant

B. poppy seeds

C. coco plant

D. fungus called ergot

**Answer: A**



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**14.** Tobacco contains

A. cocaine

B. morphine

C. codine

D. nicotine

**Answer: D**



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15. Which one of the following is a stimulant? .

A. LSD

B. Cocaine

C. Opium

D. Heroine

**Answer: B**



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**16.** The confirmatory test used to diagnose AIDS is

A. ELISA

B. Western Blot

C. ESR

D. PCR

**Answer: B**



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17. In heavy smokers the Alveoli of the lungs are enlarged and damaged which reduces the surface area for the exchange of respiratory gases. This condition is called

A. asthma

B. silicosis

C. emphysema

D. anosmia

**Answer: C**



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18. Which of the following vaccines are injected to babies at the age of  $1\frac{1}{2}$ ,  $2\frac{1}{2}$  and  $3\frac{1}{2}$  months?

- A. DTP-Hib and Polio
- B. Polio and BCG
- C. BCG and DTP-Hib
- D. BCG and hepatitis B

**Answer: A**



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19. SCID is caused by defective gene coding for the enzyme called

A. adenosine transaminase

B. guanosine transaminase

C. adenosine deaminase

D. guanosine deaminase

**Answer: C**



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**20.** A transplant between individuals of the same species, but with different MHC/HLA alleles is

A. autograft

B. isograft

C. xenograft

D. allograft

**Answer: D**



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21. Which one of the following statements is false?

A. Psychoactive drugs have the ability to alter the activity of the nervous system

B. Adolescence is marked by accelerated physical growth, development of reproductive organs and changes in functioning of the neuro endocrine system

C. Hallucinogen can alter a person's thoughts, feelings and perceptions

D. Mescaline is a stimulant

**Answer: D**



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**22.** The method which yields the best pictorial form and does not expose the patient to potentially harmful ionizing radiations is

A. X-ray radiography

B. Angiography



C. Computed Tomography

D. Magnetic Resonance Imaging

**Answer: D**



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**23. The function of IgE is**

A. mediate in allergic response

B. activation of B-cells

C. protection from inhaled and ingested pathogens

D. stimulation of complement system, passive immunity to foetus

**Answer: A**



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**24.** Neurasthenia refers to

A. undue concern about health

B. traumatic experience like rape

C. disorder of sensory perception

D. mental inability to concentrate on or enjoy things

**Answer: D**



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**25.** The cancer of the epithelial cells is called

A. leukemia

B. lipoma

C. sarcoma

D. carcinoma

**Answer: D**



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**26.** Morphine, which is used as an analgesic is obtained from [a]cinchona officinalis [b]papaver somniferum [c]taxus brevifolia [d]berberis nilghiriensis

A. *Chinchona officinalis*

B. *papaver somniferum*

C. *Taxus brevifolia*

D. *Berberis nilghiriensis*

**Answer: B**



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**27. Choose the wrong statement regarding AIDS.**

A. AIDS is an immunodeficiency disease

B. It is caused by a retrovirus, HIV

C. HIV selectively infects and kills B-lymphocytes

D. Retroviruses have RNA genomes that replicate via DNA intermediate

**Answer: C**



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**28.** Identify the wrongly matched pair.

A. Typhoid - Widal test

B. Plague - Viral disease

C. Malignant malaria - Plasmodium falciparum

D. Common cold - Rhinovirus

**Answer: B**



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