



# BIOLOGY

## BOOKS - PEARSON IIT JEE FOUNDATION

### HUMAN HEALTH AND DISEASES

#### Quick Recap

1. Tuberculosis is considered a droplet infection. Give reason.



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2. It is better to have chicken pox at the early age. Give reason.



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3. Community hygiene plays a major role to prevent vector-borne diseases. Explain.



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4. Innate immunity is not disease specific, whereas adaptive immunity is disease specific.

Give reason.



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## Test Your Concepts

1. Microorganisms which are responsible for diseases are called \_\_\_\_\_.

A. Vectors

B. Pathogens

C. Host

D. Bacteria

**Answer: B**



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2. Organisms which carry specific germs are called\_\_\_\_\_.



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3. Female Anopheles mosquito is a vector of



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4. The transmission of diseases to a healthy person without intermediate agents is called

\_\_\_\_\_.



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5. Plague is transmitted by\_\_\_\_\_.



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6. A \_\_\_\_\_ is a liquid substance which contains dead or weakened antigens.



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7. \_\_\_\_\_ is the disease for which the first vaccine was developed from the living organisms.



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8. Tear glands secrete an enzyme, called which destroys microbes \_\_\_\_\_.



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9. \_\_\_\_\_ are the inactive toxic substances extracted from the bacteria.



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**10.** The ability of an organism to protect itself from the disease-causing germs is called\_\_\_\_\_.



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**11.** Pathogens contain a unique type of protein, called \_\_\_\_\_ which causes diseases in our body.



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12. \_\_\_\_\_immunity gets developed due to the generation of antibodies in our body in response to the entry of an antigen from outside.



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13. Small pox vaccine contains \_\_\_\_\_ virus.



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14. Mouth wash is a type of \_\_\_\_\_.



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15. The antibiotic, penicillin is extracted from a mould called \_\_\_\_\_.



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16. A disease that spreads by direct contact from the infected person is.

A. chicken pox

B. AIDS

C. malaria

D. dysentery

**Answer: A**



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**17.** A boy with deep cuts is likely to suffer from  
caused by a bacterium which is found in the  
soil

A. syphilis

B. tetanus

C. typhoid

D. diphtheria

**Answer: B**



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**18.** The disease, elephantiasis is caused by a parasita called

A. Taenia solium

B. Ascariasis lumbricoides

C. Wuchereria bancrofti

D. Salmonella typhi

**Answer: C**



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**19.** The bite of an infected \_\_\_\_\_ causes sleeping sickness.

A. Anopheles mosquito

B. fly

C. tsetse fly

D. Culex

**Answer: C**



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**20.** The patient should be administered a vaccina named for the prevention of a bacterial disease caused by *Salmonella typhi*.

A. diacyl carbamazine

B. BCG

C. TAB

D. Hepatitis

**Answer: C**



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21. \_\_\_\_\_ is the pathogen which is responsible for Ascariasis

A. Taenia solium

B. Ascaris lumbricoides

C. Wuchereria bancrofti

D. Mycobacterium

**Answer: B**



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**22.** Anopheles spreads \_\_\_\_\_.

A. malaria



B. dysentery

C. filariasis

D. HIV

**Answer: A**



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**23.** A parasite named remains in the large intestine of the infected person and is responsible for blood stool sometimes.

A. Entamoeba histolytica

B. Trypanosoma brucei

C. Ascaris lumbricoides

D. HBV

**Answer: A**



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24. \_\_\_\_\_ is a fatal disease which reduces the immunity of the body.

A. TB

B. Typhoid

C. Syphilis

D. Acquired Immuno deficiency Syndrome

**Answer: D**



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**25.** The disease which is transmitted through placenta is

A. rabies

B. German measles

C. tetanus

D. influenza

**Answer: B**



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**26.** The immunity developed in our body due to the vaccination of polio and measles is an example of:

- A. innate immunity
- B. Natural active immunity
- C. Artificial active immunity
- D. Artificial passive immunity

**Answer: C**



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27. \_\_\_\_\_ is the vaccine used to cure the disease caused by *Salmonella typhi*.

A. TAB

B. BCG

C. OPV

D. DPT

**Answer: A**



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**28.** Penicillium chrysogenum is a mould from which \_\_\_\_\_ is obtained

A. penicillin

B. ampicillin

C. streptomycin

D. All of these

**Answer: A**



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**29.** We use to destroy the bacteria on the surface of the non-living objects.

A. antiseptic

B. disinfectant

C. antibodies

D. antibiotics

**Answer: B**



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**30.** Identify the commonly used substance which acts as both antiseptic and disinfectant.



A. Lysol

B. Odonil

C. Naphthalene balls

D. Dettol

**Answer: D**



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**31.** Our body produces to provide immunity against the poisonous substance present in the microorganisms.

A. toxins

B. pathogens

C. antibodies

D. antigens

**Answer: C**



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**32.** Which of the following cannot be used as an antiseptic?

A. Alcohol

B. Carboic acid

C. Boric acid

D. Hydrochloric acid

**Answer: D**



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**33.** Which of the following is not a content of a vaccine?

A. Dead pathogens

B. Living, weakened microorganisms

C. Toxoids

D. Antibiotics

**Answer: A**



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**34.** Trachoma is an infection in the\_\_\_\_\_.

A. eyes

B. stomach

C. brain

D. intestine

**Answer: A**



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**35.** The full form of DDT is

A. dichlorodiphenyltrichloroethane

B. diphenyldichlorotrighloroetane

C. dichlorodiphenyltetrachloroethane

D. dichlorodiphenyltrichloromethane

**Answer: B**



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**36.** Identify the disease caused by parasitic infection which is not communicable.

A. Diphtheria

B. Tetanus

C. Chicken pox

D. Typhoid

**Answer: B**



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**37.** Match the entries of column 1 with those of column 2

Column 1	Column 2
A. Cholera	(i) Helminthic disease
B. Malaria	(ii) Viral disease
C. Filariasis	(iii) Bacterial disease
D. Athlete foot	(iv) Protozoan disease
E. Common cold	(v) Fungal disease



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38. Match the entries of column 1 with those of column 2

Column 1 Basis for occurrence of diseases	Column 2 Diseases
A. Epidemic	(i) Malaria
B. Pandemic	(ii) Goitre
C. Endemic	(iii) Plague
D. Sporadic	(iv) AIDS



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**39.** Match the entries of column 1 with those of column 2

Column 1	Column 2
A. Innate immunity	(i) Rheumatoid arthritis
B. Acquired immunity	(ii) Breast milk
C. Passive immunity	(iii) Natural infection
D. Active immunity	(iv) Interferons
E. Auto immunity	(v) Antibodies



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**Mastering The Concepts Knowledge And Understanding**

1. Write the methods to be adopted for the control of the carrier responsible for yellow fever.



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2. A communicable disease can be prevented by BCG vaccine. Identify the disease and write a short note on it.



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3. What are the measures to be taken to control the disease spread by Salmonella typhi?



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4. Write a short note on the communicable disease which leads to the damage of liver.



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5. What are interferons?



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6. Explain the mode of transmission of the disease caused by Plasmodium.



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7. Write the symptoms and mode of transmission of 3 sleeping sickness.



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8. Differentiate between communicable and non communicable diseases.



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9. The people residing in the flood-affected areas are prone to a particular disease. One of the symptoms of this disease is diarrhoea and

the stool appears like rice water . Identify the disease and water its other symptoms .



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**10.** Identify the parasite which spreads by the bite of Culex mosquito. Also mention some precautionary measures to be taken for the prevention of this disease.



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**11.** Differentiate between congenital and acquired diseases.



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**12.** Define immunity.



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**13.** Name the following:

The disease caused by a bacteria named

Mycobacterium tuberculosis is cured by



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**14.** Name the following:

The vaccine used to cure poliomyelitis



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**15.** Name the following:

The vaccine used to cure pertusis



**Watch Video Solution**



**16.** Name the following:

The vaccine to cure polio



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**17.** Distinguish between an antigen and an antibody.



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**18.** What is an antibiotic? Mention the name of the first antibiotic discovered. Name the mould used for the production of the above antibiotic .



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**19.** Mention one synthetically prepared drug which is generally used to treat fungal infections. Name one disease which can be treated with this drug.





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20. Mention some uses of antibiotics.



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21. Differentiate between active immunity and passive immunity.



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**22.** Differentiate between Innate immunity and Acquired immunity.



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**23.** What is vaccine



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**24.** Give one example of each type of vaccines based on its content.



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**25.** How does passive immunity develop naturally?



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**26.** How does skin provide first line of defence against diseases?



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**27.** How does vaccination help in the development of immunity?



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**28.** What are phagocytes? Explain their role in our immune system.



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**29.** Chronic disease shows adverse effects on health. Give reasons.



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**30.** Why is AIDS considered to be a "Syndrome" and not a disease?



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**31.** Cholera is considered as an acute disease and arthritis as a chronic disease. Discuss.



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**32.** Why does jaundice cause yellowing of skin, eyes, nails, etc.?



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**33.** Symptoms of disease appear only after a certain period of mosquito bite in case of diseases spread by mosquitoes. Give reason.



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**34.** Developing vaccine for AIDS is very difficult. Give reason.



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**35.** Though malarial parasite invades liver, liver functioning is not considerably affected in malaria. Give reason.



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**36.** Stagnated water increases the chances of malarial attack manifold. Give reason.



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**37.** Common cold spreads much faster than AIDS.



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**38.** Breastfed babies are less likely to get infections. Why?



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**39.** Person suffering from AIDS cannot fight small  $\zeta$  infections.



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**40.** Antibiotics are effective in curing tuberculosis but not effective in curing common cold. Given reason.



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**41.** Vaccine against polio virus is an example of active immunity.



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**42.** Rheumatoid arthritis is an autoimmune disease.



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**43.** A transplanted cornea of eye is rarely rejected. Why?



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**44.** Excessive use of antibiotics leads to deficiency disorders.



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**45.** The first line of defence in the immune system is provided by skin. Discuss.



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**46.** The life of an infant is saved from three diseases. Identify the vaccines and diseases.



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**47.** Give an account on hypersensitivity or allergic reaction.



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**48.** No vaccination is possible for AIDS. Give reason.



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**49.** Chemotherapy for cancer results in temporary reduction in the lymphocyte count.

Give reason.



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**50.** How does the intake of zinc impact immunity of a person?



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**51.** Vitamin C invariably enhances the immunity in the body. What is the effect of vitamin C? Explain.



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**52.** The disease AIDS results in the drastic decrease in the immunity of the affected person. Explain the mechanism involved.



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**53.** It is highly recommended to breast feed the new born babies as soon as they are born. Justify.



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**54.** An auto immune diseases is



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**55.** Explain the mechanism of functioning of vaccines.



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**56.** Antibiotics destroy the bacterial cells in the host body without causing harm to the host cells. Give reason.



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**57.** Pregnant women are not advised to have certain vaccinations such as MMR, chicken pox, etc., while some vaccinations such as DPT are considered to be harmless. Give reason.



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**58.** Vaccination for small pox lasts for life time whereas vaccination for typhoid lasts for 2-3 years. Give reason.



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**59.** Pregnant women are vaccinated for tetanus. Give reason.



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**60.** Being affected by the disease once, acts as a lifelong protection for some of the infectious diseases. But, it is not so for tetanus. Give reason.



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# Mastering The Concepts Assertions And Reasons

1. Assertion (A): Congenital diseases are not communicable.

Reason (R): Congenital diseases are caused by microorganisms.

A. Both A and R are true and R is the correct explanation for A.

B. Both A and R are true, but R is not the correct explanation for A.

C. A is true and R is false.

D. A is false and R is true.

**Answer: C**



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2. Assertion (A): Scurvy is caused due to hypersensitivity to certain foodstuff.

Reason (R): Scurvy is a non-communicable disease.



A. Both A and R are true and R is the correct explanation for A.

B. Both A and R are true, but R is not the correct explanation for A.

C. A is true and R is false.

D. A is false and R is true.

**Answer: D**



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3. Assertion (A): A patient suffering from tuberculosis should be quarantined.

Reason (R): Tuberculosis is a bacterial infection.

A. Both A and R are true and R is the correct explanation for A.

B. Both A and R are true, but R is not the correct explanation for A.

C. A is true and R is false.

D. A is false and R is true.

**Answer: B**



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**4. Assertion (A):** Filariasis is commonly called elephantiasis.

**Reason (R):** Lymphoedema of legs is the symptom of filariasis.

A. Both A and R are true and R is the correct explanation for A.

B. Both A and R are true, but R is not the correct explanation for A.

C. A is true and R is false.

D. A is false and R is true.

**Answer: A**



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5. Assertion (A): Gambusia is a fish which is being introduced into the ponds to check

vector-borne disease.

Reason (R): AIDS is a vector-borne disease.

A. Both A and R are true and R is the correct explanation for A.

B. Both A and R are true, but R is not the correct explanation for A.

C. A is true and R is false.

D. A is false and R is true.

**Answer: C**



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**6. Assertion (A):** Both AIDS and Hepatitis B are infectious viral diseases.

**Reason (R):** Both the diseases are transmitted by vectors.

A. Both A and R are true and R is the correct explanation for A.

B. Both A and R are true, but R is not the correct explanation for A.

C. A is true and R is false.

D. A is false and R is true.

**Answer: C**



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7. Assertion (A): Plasmodium, a protozoan parasite initially multiplies in liver cells and enters blood cells.

Reason (R): It is responsible for the cause of filariasis.

A. Both A and R are true and R is the correct explanation for A.

B. Both A and R are true, but R is not the correct explanation for A.

C. A is true and R is false.

D. A is false and R is true.

**Answer: C**



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**8. Assertion (A):** Skin provides innate immunity to the body.

**Reason (R):** Skin has mucous membrane which does not allow the pathogen to enter our body.

A. Both A and R are true and R is the correct explanation for A.

B. Both A and R are true, but R is not the correct explanation for A.

C. A is true and R is false.

D. A is false and R is true.

**Answer: C**



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**9. Assertion (A):** Artificial chemicals are injected through vaccination.

**Reason (R):** Vaccination is a process of immunization.

A. Both A and R are true and R is the correct explanation for A.

B. Both A and R are true, but R is not the correct explanation for A.

C. A is true and R is false.

D. A is false and R is true.

**Answer: D**



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**10.** Assertion (A): Antibiotics inhibit the growth of disease-causing bacteria.

Reason (R): Antibiotics are obtained from different moulds.

A. Both A and R are true and R is the correct explanation for A.

B. Both A and R are true, but R is not the correct explanation for A.

C. A is true and R is false.

D. A is false and R is true.

**Answer: B**



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**11. Assertion (A):** Toxoids are used in vaccines.

**Reason (R):** Toxoids are bacterial toxins which help in the formation of antibodies.

A. Both A and R are true and R is the correct explanation for A.

B. Both A and R are true, but R is not the correct explanation for A.

C. A is true and R is false.

D. A is false and R is true.

**Answer: A**



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**12.** Assertion (A): Innate immunity is non-specific type of defence present at the time of birth.

Reason (R): Saliva, tears and sweat act as physiological barriers for innate immunity.

A. Both A and R are true and R is the correct explanation for A.

B. Both A and R are true, but R is not the correct explanation for A.

C. A is true and R is false.

D. A is false and R is true.

**Answer: B**



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**13.** Assertion (A): Fever is a symptom for an infection.

Reason (R): Pathogens cannot tolerate high temperature.

A. Both A and R are true and R is the correct explanation for A.

B. Both A and R are true, but R is not the correct explanation for A.

C. A is true and R is false.

D. A is false and R is true.



**Answer: A**



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**14.** Assertion (A): Immune system becomes weak in old people.

Reason (R): Haemoglobin is less in the blood of old people.

A. Both A and R are true and R is the correct explanation for A.

B. Both A and R are true, but R is not the correct explanation for A.

C. A is true and R is false.

D. A is false and R is true.

**Answer: B**



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**15. Assertion (A):** Spleen is considered as one of the lymphoid organs.

Reason (R): Spleen helps in the formation of red blood cells.

A. Both A and R are true and R is the correct explanation for A.

B. Both A and R are true, but R is not the correct explanation for A.

C. A is true and R is false.

D. A is false and R is true.

**Answer: B**



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**16.** Assertion (A): Consumption of antibiotics makes a person feel weak.

Reason (R): Antibiotics kill all the tissues of the respective organ in host body.

A. Both A and R are true and R is the correct explanation for A.

B. Both A and R are true, but R is not the correct explanation for A.

C. A is true and R is false.

D. A is false and R is true.

**Answer: C**



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**17. Assertion (A):** Damaged lymphocytes do not produce antibodies against antigens.

**Reason (R):** Injection of dead pathogens causes passive immunity.

A. Both A and R are true and R is the correct explanation for A.

B. Both A and R are true, but R is not the correct explanation for A.

C. A is true and R is false.

D. A is false and R is true.

**Answer: C**



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**18.** Assertion (A): Transplantation of organs to save certain patients often fail.

Reason (R): Blood vascular system and blood groups are responsible for such failures.

A. Both A and R are true and R is the correct explanation for A.

B. Both A and R are true, but R is not the correct explanation for A.

C. A is true and R is false.

D. A is false and R is true.

**Answer: B**



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## Assessment Tests

1. The diseases which spread worldwide are considered as \_\_\_\_\_ diseases.



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2. The diseases that are developed at any age after the birth but not inherited are called \_\_\_\_\_.



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3. \_\_\_\_\_ diseases occur occasionally irregularly.



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4. Acquired diseases are classified as \_\_\_\_\_ and \_\_\_\_\_.



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5. The investigation for identifying the reasons for the diseases is called \_\_\_\_\_.



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6. \_\_\_\_\_ membrane acts as a protective layer of gastrointestinal track.



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7. \_\_\_\_\_ are the cells which ingest pathogens which invade our body.



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8. \_\_\_\_\_ is the response of the immune system against foreign objects entering our body.



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9. \_\_\_\_\_ immunity can provide immediate relief by direct introduction of the antibodies into the body.



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10. The proteins that are generated in our body and destroy the pathogens are termed as \_\_\_\_\_.



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11. Which among the following is not a communicable disease?

A. Arteriosclerosis

B. Baldness

C. Scurvy

D. Chicken pox.

**Answer:**



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**12.** Identify the diseases where no agent is required for the transmission.

A. Small pox

B. Tuberculosis

C. Hay fever

D. Both (a) and (b)

**Answer:**



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**13.** Identify the vector that is responsible for yellow fever.

A. Female Anopheles

B. Culex

C. Aedes

D. Rats

**Answer:**



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**14.** Which among the following comes under the group of drugs that fights against pathogens.

A. Antibiotics

B. Sulphonamide



C. BCG

D. TAB

**Answer:**



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**15.** Identify the chemical substance that destroys the bacteria.

A. Pathogen

B. Antibiotic

C. Disinfectant

D. Antiseptic

**Answer:**



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**16.** Typhus fever is caused due to cockroaches.



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**17.** Rabies is a disease that is caused by indirect transmission from dogs to human beings.



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**18.** Streptomycin is the drug that is used to treat urinary and bowel infections.



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**19.** Mouth wash is an antibiotic that is used to prevent the growth of the microbes in our body.



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**20.** DDT when sprayed on the garbage increases the growth of the bacteria as it acts like a disinfectant.



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21. Congenital disease : Cataract::

\_\_\_\_\_::Scurvy



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22. \_\_\_\_\_ : Anthrax :: Non-communicable  
disease : Alcoholism.



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23. Typhoid :\_\_\_\_\_:: Tuberculosis:  
Mycobacterium.



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24. Alexander Fleming: Penicillin ::\_\_\_\_\_: Small  
pox vaccine.



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25. \_\_\_\_\_: Perspiration : : Antiseptic  
Microorganisms .



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26. What are endemic diseases? Give one example.



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**27.** Write briefly about the discovery of Robert Koch



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**28.** Name the two International Health Organizations



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**29.** What are the activities of WHO?





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