

**Human Health and Disease Important Questions With Answers**

**NEET Biology 2023**

1. Typhoid fever is caused by\_\_\_\_\_ .

- a) Giardia   **b) Salmonella**   c) Shigella   d) Escherichia

**Solution : -**

Salmonella typhi causes typhoid fever in human beings. It is characterised by constant fever due to the infection of intestine. Giardia is a flagellate protozoan, lamblia species of this protozoan causes disease giardiasis, a prolonged diarrhoeal disease of humans.

Bacterial genus Shigella causes shigellosis or bacillary dysentery. Escherichia coli is a facultative anaerobes, found in the intestine of human beings.

2. Asthma may be attributed to :

- a) Allergic reaction of the mast cells in the lungs**   b) Inflammation of trachea  
c) Accumulation of fluid in lungs   d) Bacterial infection of the lungs

**Solution : -**

Allergy is due to the release of chemicals like histamine and serotonin from the mast cells.

3. Gambusia is a fish which is being introduced into the ponds in order to check the vector borne diseases such as

- a) dengue   b) malaria   c) chikungunya   **d) all of these**

**Solution : -**

Gambusia feeds on the larvae of mosquitoes that live in water. Mosquito is a vector for all these three diseases; dengue, malaria and chikungunya.

4. Koch's postulates are not applicable to\_\_\_\_\_

- a) cholera   **b) leprosy**   c) TB   d) diphtheria

**Solution : -**

To apply Koch's postulates, we have to culture the suspected causal organism in vitro. Mycobacterium leprae cannot be cultured in-vitro. Hence, Koch's postulates are not applicable to leprosy because its incubation period is 2-5 years. Cholera is caused by Vibrio cholerae, TB is caused by Mycobacterium tuberculosis. Diphtheria is caused by Mycobacterium diphtheriae.

5. Read the following statements carefully.

- (i) Cancer causing viruses have genes called viral oncogenes.  
(ii) Malignant tumors remain confined to their original location.  
(iii) Cancer cells do not exhibit contact inhibition.  
(iv) X-rays and UV rays are not potent carcinogens.  
(v) Cancer detection is based on biopsy.

Which of the above statements are not correct regarding cancer?

- a) (iii) and (v)   **b) (ii) and (iv)**   c) (ii), (iii) and (v)   d) (ii), (iv) and (v)

**Solution : -**

Benign tumours remain confined to their original location. x-rays and UV-rays are carcinogenic.

6. Read the following statements and select the correct option.

Statement 1: Malignant tumors normally remain confined to their original location, do not spread to other body parts and cause less damage.

Statement 2: Cancer arising from epithelial tissues of internal organs and glands is referred to as sarcoma e.g., breast cancer, cervical cancer etc.

- a) Both statements 1 and 2 are correct    b) Statement 1 is correct but statement 2 is incorrect  
c) Statement 1 is incorrect but statement 2 is correct    **d) Both statements 1 and 2 are incorrect**

**Solution : -**

Benign tumour remains confined to the site of its origin and does not spread to other parts of the body. It causes limited damage to the body and is non-cancerous. Malignant tumor is a cancerous tumour and spreads to other parts of the body from the site of its origin. Cancer arising from epithelial tissues is referred to as carcinoma e.g., breast cancer, cervical cancer, etc.

7. Passive immunity is provided through

- a) Exogenous supply of antigens    **b) Exogenous supply of antibodies**    c) Endogenous supply of antigens  
d) Endogenous supply of antigens

8. The term 'immunity' refers to

- a) mutualism between host and parasite    **b) ability of the host to fight the disease causing organisms**  
c) ability of the parasite to survive within a host    d) a fatal disease

9. Hepatitis B vaccine is produced from

- a) inactivated viruses    **b) yeast**    c) Haemophilus influenzae    d) Salmonella typhimurium

**Solution : -**

Hepatitis B vaccine is produced from transgenic yeast by recombinant DNA technology. It is the first commercially available human vaccine that is produced by the genetic engineering technology.

10. Which of the following statements is incorrect?

- a)  
Pneumonia can be transmitted to a healthy person by inhaling the droplets released by an infected person and also by sharing utensils  
b) Pathogens causing pneumonia are Streptococcus pneumoniae and Haemophilus influenzae  
**c) There is no vaccine yet available to prevent pneumonia.**    d) None of these

**Solution : -**

Pneumonia vaccine is available these days. It is a second generation vaccine prepared by recombinant DNA technology/genetic engineering.

11. Nicotine acts as a stimulant, because it mimics the effect of \_\_\_\_\_

- a) thyroxine    **b) acetylcholine**    c) testosterone    d) dopamine

**Solution : -**

Acetylcholine is rapidly acting excitatory small sized neurotransmitter. Nicotine and acetylcholine both have same receptors and so the both have the same effect

12. Which one of the following diseases cannot be cured by taking antibiotics?

- a) Plague    **b) Amoebiasis**    c) Leprosy    d) Whooping cough

**Solution : -**

Antibiotics are used to treat bacterial diseases. Plague, leprosy and whooping cough are bacterial diseases. Amoebiasis is a protozoan disease. It cannot be cured by taking antibiotics.

13. Which one of the following diseases is non-communicable?

- a) Diphtheria   b) Flu   **c) Cancer**   d) Malaria

**Solution : -**

Among the given diseases diphtheria, flu and malaria are communicable diseases while cancer is a non-communicable disease.

14. ELISA is used to detect viruses, where \_\_\_\_\_

- a) DNA-probes are required   b) Southern blotting is done   **c) Alkaline phosphatase is the key reagent**  
d) Catalase is the key reagent

**Solution : -**

Under ELISA test extremely small amount of a protein, antibody or antigen with the help of enzyme is detected. The commonly used enzymes are peroxidase and alkaline phosphatase. Southern blotting and DNA probes are used in molecular analysis of DNA. Catalase is not involved in ELISA.

15. A hospital technician, while doing some routine culturing of microorganisms in a lab, noticed a bacterial colony growing on a culture medium containing three different antibiotics. He identified the bacterium as one that did not cause a human disease, but he still reported his observation to the hospital administration. He was worried because

- a) he had no way of killing this bacterium now that it was resistant to antibiotics

**b)**

**resistance to antibiotics could be transferred to disease-causing bacteria by transduction or conjugation**

- c) the bacterium might feed on the antibiotics and therefore, be able to grow in people taking these antibiotics

- d) if people accidentally eat contaminated food inside the hospital, they would become resistant to the antibiotic

**Solution : -**

More and more bacteria are becoming resistant to common antibiotics. A large proportion of gene transfer between bacteria takes place with the aid of conjugative plasmids, a part of the bacterial DNA. A plasmid can exist and multiply inside a cell, by using cell's machinery, but can then be transferred to another cell and in that way spread between bacteria. Genetically, antibiotic resistance spreads through bacterial population both "vertically," when new generations inherit antibiotic resistance genes, and "horizontally", when bacteria share or exchange sections of genetic material with other bacteria. Horizontal gene transfer can even occur between different bacterial species. Environmentally, antibiotic resistance spreads as bacteria themselves move from place to place; bacteria can travel via air and water. People can also pass the resistant bacteria to others; e.g., by coughing or contact with unwashed hand.

16. Read the following statements regarding spleen and select the correct option.

(i) Spleen is a large oval-shaped organ which mainly contains lymphocytes and phagocytes.

(ii) Spleen is a large reservoir of erythrocytes.

(iii) Spleen is a primary lymphoid organ.

(iv) Spleen acts as a filter of the blood by trapping blood-borne microorganisms.

- a) (i) and (ii)**   b) (ii) and (iv)   c) (i), (ii) and (iii)   **d) (i), (ii) and (iv)**

**Solution : -**

Spleen is a secondary lymphoid organ.

17. The lymphoid tissue, located within the lining of digestive tract is

- a) lymph nodes   **b) MALT**   c) spleen   d) Peyer's patches

18. Which one of the following is categorised as a parasite in true sense ?

a) The female Anopheles bites and sucks blood from humans

b) Human foetus developing inside the uterus draws nourishment from the mother

**c) Head louse living on the human scalp as well as laying eggs on human hair**

d) The cuckoo (koel) lays its eggs in crow's nest

**Solution : -**

Head louse living on the human scalp as well as laying eggs on human hair is categorised as parasite in true sense.

19. A person showing unpredictable moods, outbursts of emotion, quarrelsome behaviour and conflicts with other is suffering from \_\_\_\_\_

**a) Borderline personality disorder (BPD)**   b) Mood disorders   c) Addictive disorders   d) Schizophrenia

**Solution : -**

In BPD Borderline personality Disorder a person suffers from emotionally unstable personality, unpredictable moods, highly reactive, anxiety and instability

20. Which one of the following pairs is not correctly matched?

**a) Dengue fever - Flavi-ribo virus**   **b) Syphilis - Trichuris trichiura**   c) Plague - Yersinia pestis

d) Filariasis - Wuchereria bancrofti

**Solution : -**

Syphilis is caused by Treponema pallidum.

21. The letter T in T-lymphocyte refers to \_\_\_\_\_

a) Thalamus   b) Tonsil   **c) Thymus**   d) Thyroid

**Solution : -**

The letter T in T-lymphocyte refers to thymus. Thymus is primary specialised lymphoid organs. It is haemopoietic as well as an endocrine gland. It is the site where cells formed in bone marrow mature and differentiate here. It also secretes hormone called thymosin. This hormone is responsible for development of T-lymphocytes. Thyroid is largest endocrine gland. Thalamus is the part of forebrain in vertebrates located above the hypothalamus. Tonsil is a mass of lymphoid tissue which is involved in defense mechanism.

22. Read the given statements carefully.

(i) Innate immunity is a specific type of defence, that is present at the time of birth.

(ii) Malignant malaria is caused by Plasmodium falciparum.

(iii) Malaria could be confirmed by Widal test.

(iv) Active immunity is slow and takes time to give its full effective response.

(v) Saliva in the mouth acts as physiological barrier for pathogens.

Which of the above statements are correct?

**a) (ii), (iv) and (v)**   b) (i) and (iii)   c) (i) and (v)   d) (ii), (iii) and (v)

**Solution : -**

Innate immunity is a non-specific type of defence that is present at the time of birth. Typhoid could be confirmed by Widal test.

23. Which one of the following is the correct statement regarding the particular psychotropic drug specified?

a) Barbiturates cause relaxation and temporary euphoria

**b) Hashish causes after thought perceptions and hallucinations**

c) Opium stimulates nervous system and causes hallucinations

d) Morphine leads to delusions and disturbed emotions

**Solution : -**

Barbiturates are sedative and hypnotic drugs

24. Common cold differs from pneumonia in, that \_\_\_\_\_

a) Pneumonia is a communicable disease whereas the common cold is a nutritional deficiency disease

b)

Pneumonia can be prevented by a live attenuated bacterial vaccine whereas the common cold has no effective vaccine

c) Pneumonia is caused by a virus while the common cold is caused by the bacterium Haemophilus influenzae

d)

**Pneumonia pathogen infects alveoli whereas the common cold affects nose and respiratory passage but not the lungs.**

**Solution : -**

Common cold differ from pneumonia in that pneumonia pathogen infects alveoli of lungs whereas the common cold affects nose and respiratory passage but not the lungs. Pneumonia is caused by Diplococcus pneumoniae (a bacteria). It generally spreads through sputum of patients. Fever, cold and difficulty in breathing are some common features of pneumonia. Whereas common cold is caused by a variety of viruses like rhinovirus (RNA virus),

25. Which of the following sexually transmitted diseases is not completely curable?

a) Genital warts    **b) Genital herpes**    c) Chlamydia    d) Gonorrhoea

**Solution : -**

Genital herpes is caused by type-II-herpes simplex virus. At present there is no cure for type-II-herpes simplex virus and therefore the disease caused, genital herpes. Other noncurable STIs are hepatitis-B and HIV.

26. Which of the following statements is correct with respect to AIDS

a) AIDS patients are being fully cured cent per cent with proper care and nutrition

**b) The causative HIV retrovirus enters helper T lymphocytes thus reducing their numbers**

c) The HIV can be transmitted through eating food together with an infected person

d) Drug addicts are least susceptible to HIV infections

**Solution : -**

AIDS is caused by HIV which is a retrovirus that attacks helper T cells and reduces their number.

27. **Assertion:** Benign tumours are called neoplastic cells.

**Reason:** Malignant tumour remain in place to form a compact mass by a process known as metastasis.

a) If both assertion and reason are true and reason is the correct explanation of assertion.

b) If both assertion and reason are true but reason is not the correct explanation of assertion.

c) If assertion is true but reason is false.    **d) If assertion is true but reason is false.**

**Solution : -**

Tumours are of two types: benign and malignant. Benign tumours normally remain confined to their original location and do not spread to other parts of the body and cause little damage. The malignant tumours, on the other hand are mass of proliferating cells called neoplastic or tumour cells. These cells grow very rapidly, invading and damaging the surrounding normal tissues. As these cells actively divide and grow, they also starve the normal cells by competing for vital nutrients. Cells sloughed from such tumours reach distant sites through blood, and wherever they get lodged in the body, they start a new tumour there. This property is called metastasis which is the most feared property of malignant tumours.

28. Name the chronic respiratory disorder caused mainly by cigarette smoking

a) Respiratory alkalosis    **b) Emphysema**    c) Asthma    d) Respiratory acidosis

**Solution : -**

Emphysema is generally caused by long term irritation; cigarette smoking, air pollution and occupational exposure to industrial dust.

29. Match each disease with its correct type of vaccine

(A) Tuberculosis	(i) Harmless virus
(B) Whooping cough	(ii) Inactivated toxin
(C) Diphtheria	(iii) Killed bacteria
(D) Polio	(iv) Harmless bacteria

a) (iii),(ii),(iv),(i)    **b) (iv),(iii),(ii),(i)**    c) (i),(ii),(iv),(iii)    d) (ii),(i),(iii),(iv)

**Solution : -**

Correct matching is as follows

- A. Tuberculosis      4. Harmless bacteria  
 B. Whooping cough    3. Killed bacteria  
 C. Diphtheria        2. Inactivated toxin  
 D. Polio                1. Harmless virus

30. Match column I with column II and select the correct option from codes given below.

Column I	Column II
A. Sporozoites	(i) Infectious form of Plasmodium
B. Filariasis	(ii) Aedes mosquitoes
C. Typhoid	(iii) Wuchereria
D. Chikungunya	(iv) Widal test

a) A-(iv), B-(ii), C-(i), D-(iii)    b) A-(iii), B-(iv), C-(ii), D-(i)    c) A-(ii), B-(iii), C-(i), D-(iv)

**d) A-(i), B-(iii), C-(iv), D-(ii)**

31. The intravenous drug abusers are more likely to develop

- a) cancer    **b) AIDS**    c) malaria    d) typhoid

**Solution : -**

Drug abusers who take drugs intravenously are more likely to develop infections like AIDS and hepatitis B as these diseases can spread through infected needles.

32. The primary lymphoid organs are

- a) spleen and thymus    **b) bone marrow and thymus**    c) bone marrow and lymph node  
 d) thymus and MALT

**Solution : -**

Bone marrow and thymus are primary lymphoid organs where differentiation and proliferation of immature lymphocytes occurs.

33. MALT constitutes about \_\_\_\_\_ per cent of the lymphoid tissue in human body.

- a) 50%**    b) 20%    c) 70%    d) 10%

**Solution : -**

Associated lymphoid tissue (MALT) constitutes about 50% of the lymphoid tissue in human body.

34. Haemozoin is a

- a) precursor of haemoglobin    b) toxin released from Streptococcus infected cells  
**c) toxin released from Plasmodium infected cells**    d) toxin released from Haemophilus infected cells

**Solution : -**

Plasmodium enters the human body as sporozoites (infectious form) through the bite of infected female Anopheles mosquito. The parasites initially multiply within the liver cells and then attack the red blood cell (RBCs) resulting in their rupture. The rupture of RBCs is associated with release of a toxic substance, haemozoin, which is responsible for the chill and high fever recurring every three to four days.

35. The site where lymphocytes interact with antigens and proliferate to become effector cells are

a) spleen and lymph nodes    b) bone marrow and thymus    c) Peyer's patches and tonsils

**d) both (a) and (c)**

**Solution : -**

After maturation in primary lymphoid organs, B-cells and T-cells migrate via blood and lymph to the secondary lymphoid organs where they interact with antigens and proliferate to become effector cells.

36. Following are the differences between innate immunity and acquired immunity.

	<b>Innate immunity</b>	<b>Acquired immunity</b>
(i)	It is inherited by an organism from the parents and protects it from birth throughout life.	It is acquired by an organism after birth.
(ii)	It is also called as specific immunity.	It is also called as non-specific immunity
(iii)	It consists of different types of barriers that prevent the entry of foreign agents.	It consists of specialised cells (T-cells and B-cells) and antibodies that circulate in the body fluid.

Select the option with correct pair of differences.

a) (i) and (ii)    **b) (i) and (iii)**    c) (ii) and (iii)    d) (i), (ii) and (iii)

**Solution : -**

Innate immunity is also called non-specific immunity and acquired immunity is also called specific immunity.

37. Antivenom infection contains performed antibodies while polio drops that are administered into the body contain:

**a) Attenuated pathogens**    b) Activated pathogens    c) Harvested antibodies    d) Gamma globulin

**Solution : -**

Attenuated pathogens are living pathogen that are treated to eliminate their virulencethese are oral polio vaccine.

38. Which of the following cancer is opportunistic disease associated with HIV?

a) Cancer of cervix    b) Liver cancer    c) Burkitt's lymphoma    **d) Kaposi's sarcoma**

39. Select the correct statement from the ones given below?

a) Barbiturates when given to criminals make them tell the truth

**b) Morphine is often given to persons who have undergone surgery as a pain killer**

c) Chewing tobacco lowers blood pressure and heart rate

d) Cocaine is given to patients after surgery as it stimulates recovery

**Solution : -**

Morphine is often given to persons who have under gone surgery as a pain killer. It is extracted from the latex of poppy plant - Papaver somniferum. Its receptors are present in central nervous system and gastrointestinal tract.

40. Which of the following factors affect human health?

(i) Infections

(ii) Silent mutations

(iii) Life style

(iv) Genetic disorders

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

**Solution : -**

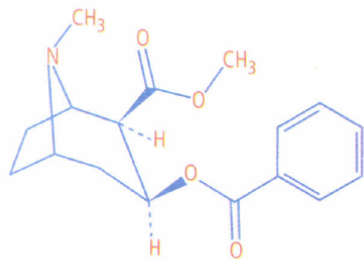
Human health is affected by following three factors:

(i) Genetic disorders: These are the deficiencies or defects that a child carries from parents by birth via genes.

(ii) Infections: A person gets infections from his/her surroundings.

(iii) Life style: It includes food and water we take, rest and exercise we give to our bodies and habits that we possess or lack, etc. in our life.

41. The chemical compound whose chemical structure is given below is obtained from which plant?



- a) **Papaver somniferum**   b) Erythroxyllum coca   c) Atropa belladona   d) Cannabis sativa

**Solution : -**

The given figure is of morphine which is extracted from the latex of poppy plant, *Papaver somniferum*.

42. The chemical test that is used for diagnosis of typhoid is

- a) **ELISA-Test**   b) ESR- Test   c) PCR- Test   d) Widal-Test

43. The cells called 'HIV factory' is

- a) helper T-cells   **b) macrophages**   c) dendritic cells   d) WBCs

**Solution : -**

After entering into the host body, HIV moves into macrophages where its RNA replicates to form viral DNA. This viral DNA gets incorporated into the host cell's DNA and directs the infected cells to produce more viruses. Hence macrophages continue to produce viruses and act as HIV factories.

44. Study carefully the following stages of life cycle of malarial parasite i.e., Plasmodium. Arrange these stages in the correct sequence and select the correct answer.

1. Sporozoites leave the blood stream and enter the liver cells of man.
2. Sporozoites present in the salivary glands of female *Anopheles* mosquito are injected into the blood stream of man.
3. The parasite reproduces asexually in RBCs, resulting in bursting of RBCs and causing the cycles of fever; released parasites infect new RBCs.
4. The parasite reproduces asexually in liver cells, ultimately causing the rupturing of cells.
5. Two types of gametocytes i.e., microgametocytes and macrogametocytes develop in the RBCs.
6. Female *Anopheles* mosquito takes up the gametocytes with blood meal of an infected person.
7. Mature infective stage of the parasite i.e., sporozoites escape from intestine and migrate to the mosquito's salivary glands.
8. Fertilisation and developmental stages of the parasite take place in mosquito's stomach.

- a) **2 → 1 → 4 → 3 → 5 → 6 → 8 → 7**   b) 2 → 4 → 1 → 3 → 5 → 6 → 7 → 8  
c) 1 → 2 → 4 → 3 → 5 → 6 → 8 → 7   d) 6 → 8 → 7 → 4 → 5 → 2 → 3 → 1

45. Which one of the following statements is correct with respect to immunity?

- a) Antibodies are protein molecules, each of which has four light chains  
b) Rejection of a kidney graft is the function of B-lymphocytes  
**c) Preformed antibodies need to be injected to treat the bite by a viper snake**  
d) The antibodies against small pox pathogen are produced by T-lymphocytes

**Solution : -**

In cases of snakebites, the injection which is given to the patients, contain preformed antibodies against the snake venom. This type of immunisation is called passive immunisation.

46. Which of the following diseases is transmitted by the bite of the female mosquito vector?

- a) **Filariasis**   b) Amoebiasis   c) Typhoid   d) Pneumonia

47. The most abundant class of immunoglobulins (Igs) in the body is

- a) IgA   **b) IgG**   c) IgE   d) IgM



**Solution : -**

IgG is the most abundant class of immunoglobulins in the body constituting 80% of the Igs.

48. **Assertion** : Immunisation is achieved by the successful delivery of vaccines.

**Reason** : Vaccine is a preparation of one or more microbial agents, used to induce active immunity.

**a) If both assertion and reason are true and reason is the correct explanation of assertion.**

b) If both assertion and reason are true but reason is not the correct explanation of assertion.

c) If assertion is true but reason is false.    d) If assertion is true but reason is false.

49. Which of the following pair of diseases is caused by virus?

**a) Rabies, mumps**    b) Cholera, tuberculosis    c) Typhoid, tetanus    d) AIDS, syphilis

**Solution : -**

Rabies (hydrophobia) is caused by a virus named as rabies virus. It is a lethal disease. Mumps is an infectious disease causing fever, difficulty in opening the mouth and painful swelling of the parotid glands which lie just below the lobe of the ear. It is caused by a paramyxovirus.

50. Which of the following is a pair of viral diseases?

**a) Common cold, AIDS**    b) Dysentery, common cold    c) Typhoid, tuberculosis    d) Ringworm, AIDS

**Solution : -**

Common cold and AIDS are viral disease, Their causative agent is Myxo virus and Human Immunodeficiency Virus (HIV) respectively. Ringworm is caused by a Trichophyton and Microsporum, a type of fungi. Typhoid and tuberculosis are bacterial disease. Their causative agents are Salmonella typhi and Mycobacterium tuberculosis respectively.