



INDIAN SCHOOL AL WADI AL KABIR

Class: XII	Department: SCIENCE 2020 -21 SUBJECT : BIOLOGY	Date of submission: Second week of November 2020
Worksheet No: 12 WITH ANSWERS	UNIT: BIOLOGY IN HUMAN WELFARE HUMAN HEALTH AND DISEASE	Note: A4 FILE FORMAT
NAME OF THE STUDENT	CLASS & SEC:	ROLL NO.

OBJECTIVE TYPE QUESTIONS (1 Marks.)

1. 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.

2. 'Smack' is a drug obtained from the

- (a) latex of *Papaver somniferum*
- (b) leaves of *Cannabis saliva*
- (c) flowers of *Datura*
- (d) fruits of *Erythroxylon coca*

3. 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.

4. Antibodies present in colostrum which protect the new born from certain diseases is of

- (a) IgG type
- (b) IgA type
- (c) IgD type
- (d) IgE type.

5. Which of the following is not a lymphoid tissue?

- (a) Spleen
- (b) Tonsils
- (c) Pancreas
- (d) Thymus.

6. 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 cell

7. A person with sickle cell anaemia is

- (a) more prone to malaria
- (b) more prone to typhoid
- (c) less prone to malaria
- (d) less prone to typhoid.

8. Which of the following pairs contains an infectious and a non-infectious disease respectively?

- (a) Typhoid and AIDS
- (b) AIDS and cancer
- (c) Pneumonia and malaria
- (d) Cancer and malaria

9. Typhoid fever in human beings is caused by

- (a) Plasmodium vivax
- (b) Trichophyton
- (c) Salmonella typhi
- (d) Rhinoviruses.

10. Which one of the following sets includes bacterial diseases?

- (a) Tetanus, tuberculosis, measles
- (b) Diphtheria, leprosy, plague
- (c) Cholera, typhoid, mumps
- (d) Malaria, mumps, poliomyelitis

11. The common cold is caused by

- (a) Rhino viruses
- (b) Streptococcus pneumoniae
- (c) Salmonella typhimurium
- (d) Plasmodium vivax.

12. Humoral immunity is associated with

- (a) T-cells
- (b) B-cells
- (c) macrophages
- (d) both (a) and (b)

13. A protein or polysaccharide molecule that stimulates antibody formation.

- (a) antigen
- (b) antibiotics
- (c) exotoxin
- (d) endotoxins.

14. Injection of antitoxin in tetanus confers which type of immunisation?

- (a) Active immunisation
- (b) Passive immunisation
- (c) Auto-immunisation
- (d) Humoral immunisation

15. Vaccine against polio viruses is an example of

- (a) auto-immunisation
- (b) passive immunisation
- (c) active immunisation
- (d) simple immunisation

16. During the life cycle of Plasmodium, sexual reproduction takes place in which of the following hosts ?

- (a) Human
- (b) Female Anopheles mosquito
- (c) Male Anopheles mosquito
- (d) Both (a) and (b)

17. An intestinal parasite which causes blockage of the intestinal passage and whose eggs are excreted along with the faeces of infected person is _____.

- (a) Wuchereria bancrofti
- (b) Ascaris
- (c) Epidermophyton
- (d) Microsporum

18. Which of the following is affected by the infection of Wuchereria bancrofti?

- (a) Lymphatic vessels
- (b) Respiratory system
- (c) Nervous system
- (d) Blood circulation

19. Appearance of dry, scaly lesions with itching on various parts of the body are the symptoms of _____.

- (a) elephantiasis
- (b) ringworm
- (c) ascariasis
- (d) amoebiasis

20. Heroin is commonly called as

- (a) coke
- (b) crack
- (c) smack
- (d) charas.

21. Marijuana is extracted from .

- (a) dried leaves and flowers of hemp plant .
- (b) ergot fungus
- (c) roots of hemp plant
- (d) cocoa plant.

22. Hepatitis B vaccine is produced from

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

23. The most abundant antibody produced against allergens is

- (a) IgE
- (b) IgA
- (c) IgG
- (d) IgM.

24. Which of the following cells actively participate during allergy ?

- (a) B-lymphocytes
- (b) Liver cells
- (c) Mast cells
- (d) Red blood cells

25. The drugs used to quickly reduce the symptoms of allergy are

- (a) anti-histamine and adrenaline
- (b) histamine and thyroxine
- (c) adrenaline and α -interferon
- (d) all of these

26. An auto-immune disease is

- (a) SCID
- (b) rheumatoid arthritis
- (c) myasthenia gravis
- (d) both (b) and (c).

27. 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)

28. AIDS is widely diagnosed by

- (a) Widal test
- (b) ELISA
- (c) PC
- (d) Chromatography.

29. What is the reason of shivering in malarial patient?

30. Why does an AIDS patient suffer from many infections?

SHORT ANSWER TYPE QUESTION (2 Marks)

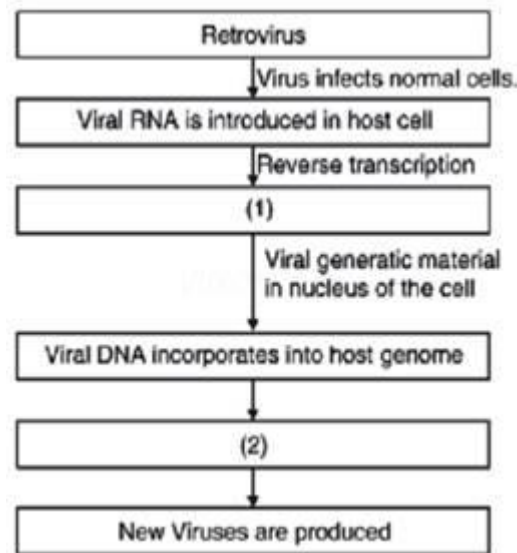
31. Where are B-cells and T-cells formed? How do they differ from each other?
32. What would happen to the immune system, if thymus gland is removed from the body of a person?
33. What is the role of histamine in inflammatory response? Name few drugs which reduce the symptoms of allergy.
34. Differentiate between two different types of tumours?
35. Differentiate between active & passive immunity?
36. Enumerate the two properties of cancer cells that distinguish them from normal cell.
37. What are allergens? How do they cause inflammatory response inside human body?
38. What are autoimmune diseases? Give two examples?

LONG ANSWER TYPE QUESTIONS (3 Marks)

39. What are Cannabinoids? From which plant Cannabinoids are obtained? Which part of the body is affected by consuming these substances?
41. Mention any three causes of drug abuse. Suggest some measures for the prevention and control of drug abuse.
42. A person shows unwelcome immunogenic reactions while exposed to certain substances.
- (a) Name this condition.
- (b) What common term is given to the substances responsible for this condition?

(c) Name the cells and the chemical substances released which cause such reactions

43. In the given flow diagram, the replication of retrovirus in a host cell is shown. Examine it and answer the following questions



(a) Why is virus called retrovirus

(b) Fill in (1) and (2)

(c) Can infected cell survive while viruses are being replicated and released by host cell?

44. What is innate immunity? List the four types of barriers which protect the body from the entry of the foreign agents.

45. It was diagnosed by a specialist that the immune System of the body of a patient has been suppressed. Describe the infection & the mechanism of its proliferation in the body.

VERY LONG ANSWER QUESTIONS (5 MARKS)

46a. What are carcinogens? What are the different types of carcinogens?

b. Benign tumour is less dangerous than malignant tumour. Why

c. Mention the different methods of treatment of cancer?

47. (i) Differentiate between communicable & non – communicable diseases?

(ii) Name the body part & the host in which following events takes place in life cycle of plasmodium.

(a) fertilization

(b) Development of Gametophyte: -

(c) Release of sporozoites: -

(d) Asexual Reproduction.

48. The pathogen of a disease depends on RBCs of human for growth and reproduction. The person with this pathogen suffers with chill and high fever.

(a) Identify the disease.

(b) Name the pathogen.

(c) What is the cause of fever?

(d) Represent the life cycle of the pathogen diagrammatically.

49. The immune system of a person is suppressed. He was found positive for a pathogen in the diagnostic test ELISA.

(a) Name the disease, the patient is suffering from.

(b) Which pathogen is identified by ELISA test?

(c) Which cells of the body are attacked by the pathogen?

(d) Suggest preventive measure of the infection.

50. Discuss the role of lymphoid organs in the immune response. Explain the different types of lymphoid organs giving two examples of each type in humans.

51. With the help of a well – labelled diagram, Describe the life cycle of malarial parasite.

52. With the help of a well – labelled diagram, illustrate the replication of the retrovirus.

ANSWERS (1-28) MCQs

1-c	2-a	3-c	4-b	5-c	6-c	7-a	8-b	9-c	10-b	11-a	12-b	13-a	14-b
15-c	16-b	17-b	18-a	19-b	20-c	21-a	22-b	23-a	24-c	25-a	26-d	27-d	28-b

29. After sporozoite infection, when RBC ruptures, a toxic substance haemozoin is released which cause chilling and high fever.

30. Because in AIDS patient, immune system greatly weakens & cannot fight against any infection

31. B-cells and T-cells are formed in bone marrow. B-cells produce antibodies but E-cells do not produce antibodies but help B-cells to produce them

32. T-lymphocytes are developed and matured in thymus gland, Immune system will become weak on removal of thymus gland.

33. Histamine acts as allergy-mediator which cause blood vessels to dilate. It is released by mast cells. Antihistamine steroids and adrenaline quickly reduce the symptoms of allergy.

36.i) uncontrolled proliferation of cells without any differentiation

ii) Ability of these cells to invade other tissues called metastasis.

37. The substance which causes the hypersensitive reaction of the immune system is called an allergen e.g. dust, pollen grains etc. These allergens are actually weak antigens. First exposure to allergen does not cause allergy but consequent exposure, allergen combines with Ig E on mast cell. That causes cells to burst & release Histamines which cause inflammatory response.

38. Immunity is based on ability to differentiate foreign organism from self-cells. Sometimes immune system may go off the track & turns against self-antigen and elicit immunity. Such conditions are called auto – immune diseases eg. Rheumatoid arthritis, Myasthenia gravis.

39. -Cannabinoids are a group of chemicals which interact with Cannabinoid receptors present

– Principally in the brain Cannabinoids are obtained from the inflorescences of the plant *Cannabis sativa*.

– The substances affect the cardiovascular system adversely

42.(a) Allergy (b) Allergens

(c) Mast Cells – Histamine, Serotonin

45. If the immune system of the patient is found to be suppressed, he is found to suffer from human immunodeficiency virus (HIV). The HIV virus enters into helper T- cells & replicate to produce progeny viruses. The replication of virus involves: - check the ppt notes for the steps.

46. The things that cause cancer are called carcinogens. These agents may be chemical or physical things like: -Name any four Smoking, Tobacco chewing Radiations eg. uv- x-ray, cosmic rays. Cellular agents proto-oncogenes which when activated under certain condition may lead to oncogenic transformation of cells.

Treatment of cancer involves:-

1. SURGERY: - surgical removal of tumour
2. CHEMOTHERAPY: treatment with drugs that can destroy cancer cells
3. IMMUNOTHERAPY: use of interferons, interleukin, vaccines to generate non-specific defence mechanism
4. RADIATION THERAPY: - x-ray therapy or radiotherapy use of ionizing radiations to kill cancer cells.
5. HARMONAL SUPPRESSION: providing or blocking certain hormones.

47 (i) Communicable diseases are caused by biological agents & can spread from one person to another or one place to another through air, water, physical contact etc. Non – communicable diseases are confined to a person & do not easily spread from one person to another.(ii) (a) in the gut of female anopheles.(b) in RBCS of Human beings.(c) Salivary gland of female anopheles.(d) liver cells of human beings.

48. (a) Malaria

(b) Different species of Plasmodium viz P. vivax, P. malaria and P. falciparum.

(c) Malaria is caused by the toxins (haemozoin) produced in the human body by the malarial parasite. This toxin is released by the rupturing of RBCs.

(d) Life cycle of Plasmodium: Fig. 8.1 Page 148, NCERT book, Biology – XII

49.(i) AIDS (Acquired Immuno Deficiency Syndrome)

(ii) HIV (Human Immunodeficiency Virus)

(iii) Helper T-cells, macrophages, B-lymphocytes.

(iv) Preventive measures: any two