

QB365

Important Questions - Human Health and Disease

12th Standard CBSE

Biology

Reg.No. :

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Time : 01:00:00 Hrs

Total Marks : 50

Section - A

- 1) Hashish and Ganja are got from 1
(a) Erythroxyton (b) Nicotiana (c) Papaver (d) Cannabis
- 2) Which of the following properties of acquired immunity is the basis of vaccination? 1
(a) Specificity (b) Diversity (c) Memory (d) Discrimination between self and non self.
- 3) HIV attacks which of the following? 1
(a) B cells (b) T cells (c) Antigen presenting cells (d) T helper cells
- 4) The term vaccine and vaccination were coined by 1
(a) Mendel (b) Robert Hooke (c) Pasteur (d) Robert Brown
- 5) Passive immunity can be obtained through 1
(a) Antigens (b) Vaccines (c) Antibiotics (d) Antibodies
- 6) Widal Testis carried out to test 1
(a) Malaria (b) Diabetes mellitus (c) HIV/AIDS (d) Typhoid fever
- 7) Cirrhosis of liver is caused by the chronic intake of 1
(a) Opium (b) Alcohol (c) Tobacco (chewing) (d) Cocaine
- 8) Which one of the following sets of items in the option (a-d) are correctly categorized with one exception in it? 1

(a)

Items	Category	Exception
UAA, UAG, UGA	Stop codons	UAG

(b)

Items	Category	Exception
Kangaroo, koala, wombat	Australian marsupials	Wombat

(c)

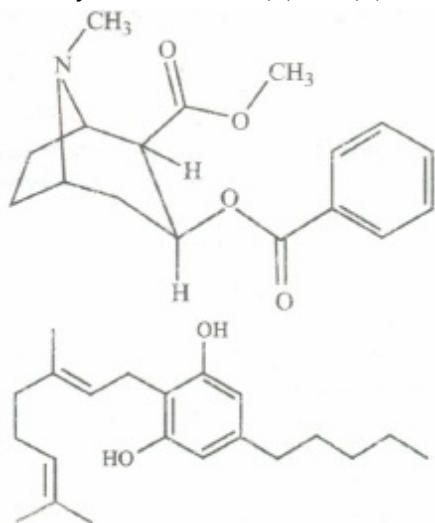
Items	category	Exception
Plasmodium, Cuscuta, Trypanosoma	Protozoan parasites	Cuscuta

(d)

Item	Category	Exception
Typhoid, pneumonia diphtheria	Bacterial diseases	Diphtheria

9) Identify the molecules (A) and (B) shown below and select the right option giving their source and use.

1



(a)

Molecule	Source	Use
A-Cocaine	Erythroxylum coca	Accelerates the transport of dopamine

(b)

Molecule	Source	Use
B-Heroin	Cannabis sativa	Depressant and slows down body functions

(c)

Molecule	Source	Use
B-Cannabinoid	Atropa belladonna	Produces hallucinations

(d)

Molecule	Source	Use
A-Morphine	Papaver somniferum	Sedative and pain killer

10) Xenograft means

1

- A graft between two genetically identical individuals
- A graft in which a tissue is grafted from one individual to another individuals of the same species
- A graft between individuals of different species
- Tissue grafted from one area to another of the same individual

Section - B

11) Write the events that take place when a vaccine for any disease is introduced into the human body.

2

12) Explain the response initiated when a does of vaccine is introduced into the human body.

2

13) Name one plant and the addictive drug extracted from its latex.How does this drug affect the human body?

2

14) Describe the role of lymph nodes in providing immunity.

2

15) Mention any four characteristic symptoms of dengue fever.

2

16) Describe the cell-mediated immunity.

2

- 17) (a) Name the infective stage of Plasmodium which Anopheles mosquito take along with the blood meal from an infected human. 2
 (b) Why does the infection cause fever in humans?
 (c) Give a flow chart of the part of the life-cycle of this parasite passed in the insect.
- 18) Give functions of four classes of immunoglobulin 2
- 19) Differentiate immunodeficiency and autoimmune diseases. 2
- 20) In which group does cancer develop? 2

Section - C

- 21) In your view, what motivates youngsters to take to alcohol or drugs and how can this be avoided? 5
- 22) What is Pulse Polio Programme of Government of India? What is OPV? Why is it that India is yet to eradicate Polio. 5
- 23) Write the causative organism, mode of infection, symptoms and preventive measures of 5
 (1) Leprosy
 (2) Whooping cough
- 24) Make a table showing the major psychotropic drugs. Give examples and write their effects 5

Section - A

- 1) (d) Cannabis 1
- 2) (c) Memory 1
- 3) (d) T helper cells 1
- 4) (c) Pasteur 1
- 5) (c) Antibiotics 1
- 6) (d) Typhoid fever 1
- 7) (b) Alcohol 1

8)

Items	category	Exception
Plasmodium, Cuscuta, Trypanosoma	Protozoan parasites	Cuscuta

1

9)

Molecule	Source	Use
A-Morphine	Papaver somniferum	Sedative and pain killer

1

- 10) (c) A graft between individuals of different species 1

Section - B

- 11) 2

Active immunity is produced by injecting the microbes deliberately during immunisation. Antibodies are produced by the B-cells of our body in response to the antigens; they neutralise the pathogenic agents during actual infection. The vaccines also generate memory B-cells and T-cells, which recognise the same pathogen on subsequent exposure and destroy them by a massive production of antibodies.

12)

2

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13)

2

Smack is obtained from Papaver somniferum (Poppy). It binds to specific opioid receptors present in our central nervous system and gastrointestinal tract. It is a depressant and slows down the body functions.

14)

2

The lymph nodes serve to trap the microorganisms and other antigens which have entered the lymph and tissue fluid. These trapped antigens activate the lymphocytes present in the lymph nodes to cause immune response.

15) High fever, skin rashes, muscle and joint pain, decrease in platelet count of blood.

2

16)

2

Cell Mediated Immunity: (i) It is mediated by T-lymphocytes. There are two groups of T-lymphocytes. (i) Cytotoxic or killer T cells, which kill the specific target cells by a variety of mechanisms. (ii) Helper T cells, which activate the specific B-cells to produce antibodies. T-lymphocytes are responsible for graft rejections.

17) (a) Gametocytes.

2

(b) Release of haemozoin in blood.

18) Functions of different immunoglobulin classes.

2

Immunoglobulin	Functions
Class IgA	Protection from inhaled and ingested pathogens
IgD	Present on lymphocyte surface as receptors, activation of B cells
IgE	Mediators in allergic response
IgG	Stimulation of phagocytes and complement system passive immunity to foetus.
IgM	Activation of B cells

19)

2

Differences between immunodeficiency and autoimmune diseases.

Immunodeficiency diseases	Autoimmune diseases
1. These diseases are caused because of absence of T-cells or B-cells right from birth and patients are prone to even minor infection.	In this disease immune system of the body goes off the track and turns against the self and depends upon that which cells of the body are attacked.
2. Examples: Severe combined immunodeficiency (SCID)	2 Examples: (a) Chronic anaemia (b) Myasthenia gravis.

20)

2

Malignancy (cancer) generally develops after the age of 35-40 years however, it may also occur at a younger age. Rapid cancerous development occurs after the age of 50 years.

Section - C

21)

5

Causes for drug abuse: (i) Curiosity. (ii) Need for adventure. (iii) Excitement (iv) Experimentation (v) To escape from stress. (vi) Unsupportive family structure.

22)

5

Pulse Polio Programme was started in 1978. Pulse Polio programme is the administration of oral Polio vaccine at regular intervals to the children under the age of five. Government provides vaccine free of cost. Many NGOs also participate with a mission to make India free of polio disease. OPV is the vaccine given orally. The project 'Fight poliomyelitis' through a large cycle vaccination programme and monitoring for polio cases. Due to this project, on March 27, 2014 World Health Organization declared India a polio free country since no case of wild polio had been reported.

23)

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Common human diseases

Name of Diseases and Causative agent	Mode of Infection	Symptoms	Preventive measure
1. Leprosy- Mycobacterium leprae	Chronic infection of skin and nerves	Ulcers, nodules, scales, deformities of fingers and toes, wasting of body parts. Severe coughing characteristic of a gasping whoop	1. Rehabilitation of patients 2. Vaccination vaccine may be available shortly. 3. DDS (Diamino Diphenyl Sulphate) treatment.
2. Pertussis- (whooping cough) Bordetella pertussis ad matter	By throat discharge and contact	Severe coughing characteristic of a gasping whoop	DPT vaccine. Isolation of patient.

Major groups of psychotropic drugs, examples and effects

Types of drugs	Examples	Effects
I. Sedative tranquilizers (depressant)	Benzodiazepines (e.g., Valium), barbiturates.	Depresses brain activity and produces feelings of calmness, relaxation, drowsiness and deep sleep (high doses).
II. Opiate narcotics	Optimum, morphine, heroin, parathidine, methadone	Suppresses brain function, relieves intense pain.
III. Stimulants	Caffeine (very mild), cocaine, amphetamines.	Stimulate the nervous system; makes a person more wakeful, increases alertness and activity, produces excitement.
IV. Hallucinogens	LSD, mescaline psilocybin, charas, bhang, marijuana, hashish	Alters thought, feelings and perceptions