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Class 12th

Subject Biology

Date 20.06.2021

Human Health and Diseases

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

Solution:

Measures taken to prevent water-borne diseases are as follows:

 Provision of clean water for drinking

 Industries should be prohibited from discharging wastes into water bodies

 Frequent cleaning and disinfecting water tanks and reservoirs

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

Solution:

The term 'suitable gene' is used to refer to a particular section of DNA that can be altered in the host in order to synthesize a particular protein which attacks and kills a specific disease-causing entity.

6. Name the primary and secondary lymphoid organs.

Solution:

Primary lymphoid organs are – Thymus and bone marrow

Secondary lymphoid organs are – Mucosal-associated lymphoid tissues (MALT), Lymph nodes, Spleen, Peyer's patches (small intestine)

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

Solution:

The expansion is as follows:

(a) MALT - Mucosal-associated lymphoid tissues

(b) CMI – Cell mediated immunity

(c) AIDS – Acquired Immuno-deficiency syndrome

d) NACO – National Aids Control Organization

(e) HIV – Human Immuno-deficiency virus

8. Differentiate the following and give examples of each:

(a) Innate and acquired immunity (b) Active and passive immunity

Solution:

The differences are as follows:

(a) Innate and acquired immunity

Innate immunity Acquired immunity

Non-specific in nature Specific in nature

Present from birth It is acquired in response to a particular pathogen

Has different barriers Has a memory of antibody

For instance, mucus traps bacteria and other

particles

For instance, post vaccination antibodies respond

(b) Active and passive immunity

Active immunity Passive immunity

In response to pathogens, body releases antigens To initiate immunity, antigen is injected

Slower response Faster response

For instance, post vaccination antibodies respond For instance, Colostrum is rich in antibodies