



INDIAN SCHOOL NIZWA - WORKSHEET

BIOLOGY

CH-12 BIOTCHNOLOGY – APPLICATIONS

Name: _____

Date: _____

Class: XII-A

1. Name the technique based on the principle of antigen-antibody interaction used in detection of a virus (HIV).
2. Development of a transgenic food crop may help in solving the problem of night blindness in the developing countries, name this crop plant.
3. Which nematode infects the roots of tobacco plant and causes a great reduction in yield?
4. The first transgenic cow, produced human protein enriched milk. Name the cow and the protein found in milk.
5. The insulin produced using recombinant DNA technology is more advantageous than the insulin extracted from pancreas of slaughtered cattle and pigs. How?
6. Name two pest resistant plants produced by using recombinant DNA technology.
7. Expand GMO. How is it different from a hybrid?
8. Give the full form of ELISA. Which disease can be detected using it? Discuss the principle underlying the test
9. Many proteins are secreted in their inactive form. This is also true of many toxic proteins produced by micro organisms. Explain how the mechanism is useful for the organism producing the toxin?
10. How was Insulin obtained before the advent of rDNA technology? What were the problems encountered?
11. What is GEAC and what are its objectives?
12. What is gene therapy? Illustrate using the example of adenosine deaminase (ADA) deficiency.
13. What are Cry proteins? Name an organism that produce it. How has man exploited this protein to his benefit?
14. Compare and contrast the advantages and disadvantages of production of genetically modified crops.
15. Gene expression can be controlled with the help of RNA. Explain the method with an example
16. Who was the first patient who was given gene therapy? Why was the given treatment recurrent in nature?
17. What is meant by the term bio-pesticide? Name and explain the mode of action of a popular bio-pesticide.
18. Some multinational companies and other organisations are using bioresources for commercial benefits, without proper authentication and compensation to concerned authorities. (a) Give the term for this unauthorised act. (b) Suggest any two ways to get rid of this.
19. A bacterium *Bacillus thuringiensis* produces a toxic protein named .cry protein. that is lethal to certain insects but not to bacterium (a) Why this toxin does not kill the bacteria? (b) What type of changes occur in the gut of insects on consuming this protein? (c) How man has exploited this protein for his benefit?



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