DNA technology/genetic engineering

BIO

Name_____ Class_____ Date_____

1 A medical test indicates that a patient has a **defective protein**. This condition is most likely due to a change in the directions **coded** in the

- **A** number of hydrogen atoms in starch molecules
- **B** sequence of inorganic molecules
- **C** number of carbon atoms in sugar molecules
- **D** sequence of subunits in DNA

2 A small amount of **DNA** was taken from a fossil of a mammoth found frozen in glacial ice. Genetic technology can be used to produce a large quantity of **identical DNA** from this mammoth's DNA. In this technology, the **original DNA** sample is used to

- **A** stimulate differentiation in other mammoth cells
- **B** provide fragments to replace certain human body chemicals
- **C** act as a template for repeated replication
- **D** trigger mitosis to obtain new base sequences

3 Many diabetics are now using insulin that was made by **certain bacteria**. The **ability** of these bacteria to **produce insulin** was most likely the result of

- **A** deleting many DNA segments from bacterial DNA
- **B** genetic mapping of bacterial DNA to activate

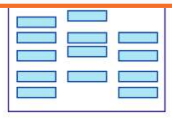
4 In 1994, a new tomato variety that ripens slowly was developed by a laboratory technique that did **not** involve methods of natural reproduction. This new variety contains a section of a DNA molecule **not** found in the tomato from which it was originally developed. Which **technique**

5

7

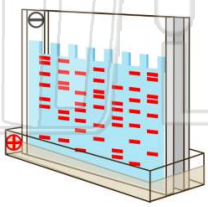
- **A** human insulin
- **B** antibodies against insulin
- **C** enzymes that digest insulin
- **D** a new type of insulin

- **A** Bear 1 and 2
- **B** Bear 1 and 3
- **C** Bear 2 and 3
- **D** Bear 1 and 3



9 **Gel electrophoresis** is used to separate DNA fragments on the basis of their

- **A** size
- **B** color
- **C** functions
- **D** chromosomes



10 Strawberries can reproduce by means of runners, which are stems that grow horizontally along the ground. At the region of the runner that touches the ground, a new plant develops. The new plant is genetically identical to the parent because

- **A** it was produced sexually
- **B** nuclei traveled to the new plant through the runner to fertilize it
- **C** it was produced asexually
- **D** there were no other strawberry plants in the area to provide fertilization

DNA technology/genetic engineering - Answer Key

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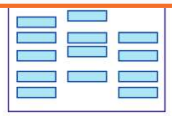

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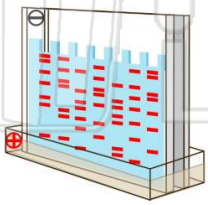

A

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