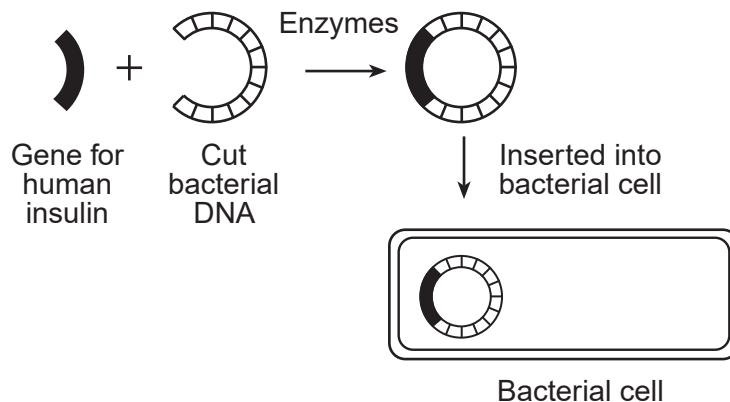


1 Which row in the chart below correctly pairs a human activity with its impact on the environment?

Row	Human Activity	Impact
(1)	decrease in the use of pesticides	erosion of rock in the soil
(2)	increase in housing developments	improvement in air quality
(3)	increase in human population	reduction in water usage
(4)	decrease in recycling	reduction in amount of available resources

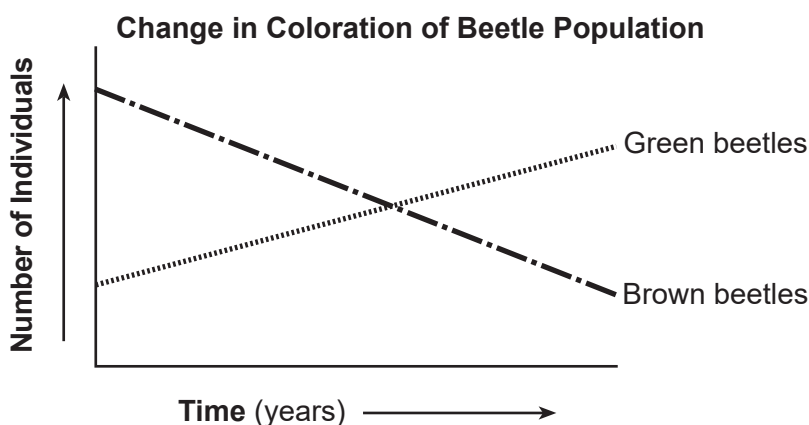
2 The diagram below represents some steps in a procedure used in the field of biotechnology.



This bacterial cell can now be used to produce

- (1) the bacterial gene for insulin that can be inserted into humans
- (2) human genes for enzymes that can be inserted into humans
- (3) insulin that can be used by humans
- (4) enzymes necessary to treat human diseases

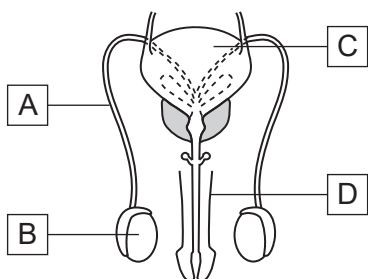
3 The graph below represents the number of brown and green beetles collected in a particular ecosystem.



The change observed in the number of green and brown beetles in the population is most likely due to

- (1) natural selection
- (2) selective breeding
- (3) gene manipulation
- (4) a common ancestor

- 4 A reproductive system is represented in the diagram below.



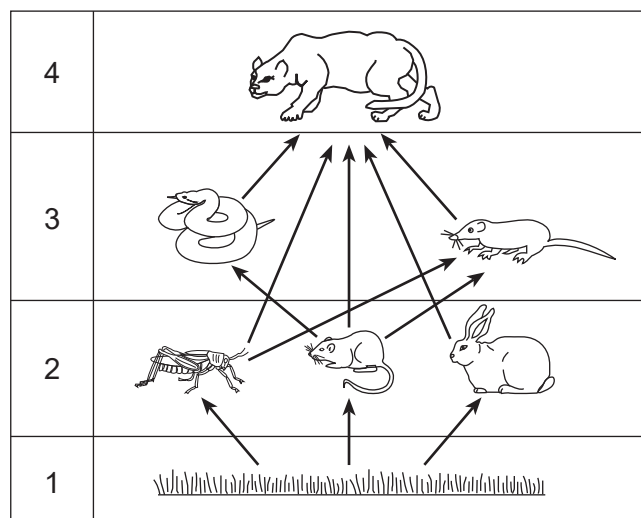
Which structure is correctly paired with its reproductive function?

- (1) A – pathway of gametes
 - (2) B – synthesis of progesterone
 - (3) C – production of sperm
 - (4) D – regulation of homeostasis
- 5 For centuries, humans have used resources from coastal areas and open ocean waters. An example of an activity that would promote the conservation of coastal areas and ocean resources is
- (1) harvesting large numbers of different fish species
 - (2) allowing all-terrain vehicles access to beach areas
 - (3) creating protected zones of natural grasses and shrubs in beach areas
 - (4) encouraging the construction of factories along the ocean shoreline
- 6 Which activity would eventually result in a stable ecosystem?
- (1) deforestation in an area to increase space for the species living there
 - (2) mowing a large field so it can be used for recreation
 - (3) allowing native plants to grow undisturbed in an abandoned field
 - (4) spraying pesticides on a field at the end of each growing season

- 7 Some states require shoppers to pay a deposit on certain beverage containers made of plastic and glass. When shoppers return the containers, their deposits are returned to them. How is this system intended to help the environment?

- (1) It encourages people to buy products that do not have a deposit.
- (2) It reduces the amount of money shoppers actually spend.
- (3) It reduces the amount of plastics and glass put into landfills.
- (4) It forces manufacturers to reduce air pollution when they are making the containers.

- 8 The diagram below represents a food web.



Which level contains organisms that carry out autotrophic nutrition?

- (1) 1
 - (2) 2
 - (3) 3
 - (4) 4
- 9 Mad cow disease is a fatal disease that destroys brain tissue. Researchers have found that a prion protein, which is an abnormally constructed molecule, is responsible. Which statement best describes the characteristics a protein must have to function correctly?
- (1) A protein is a long chain of amino acids folded into a specific shape.
 - (2) A protein is a long chain of simple sugars folded into a specific shape.
 - (3) A protein is made of amino acids synthesized into a short, circular chain.
 - (4) A protein is made of simple sugars synthesized into a short, circular chain.