

# Chapter 9

## The Living Environment

# Regents Exam Practice



### PART A: Answer all questions in this part.

*Directions:* For each statement or question, write on your separate answer sheet the number of the word or expression that best completes the statement or answers the question.

- 1 Plants in areas with short growing seasons have more chloroplasts in their cells than plants in areas with longer growing seasons. Compared to plants in areas with longer growing seasons, plants in areas with shorter growing seasons most likely
- (1) make and store food more quickly.
  - (2) have a higher rate of protein metabolism.
  - (3) grow taller.
  - (4) have a different method of respiration.

- 2 Most of the starch stored in the cells of a potato is composed of molecules that originally entered these cells as
- (1) enzymes
  - (2) simple sugars
  - (3) amino acids
  - (4) minerals

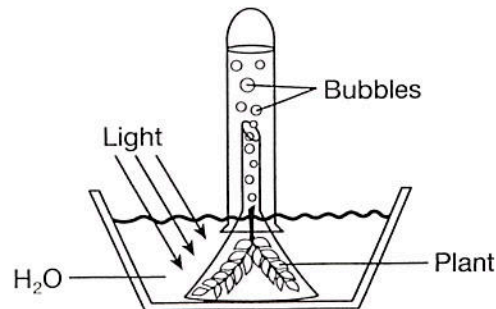
- 3 The dissolved carbon dioxide in a lake is used directly by
- (1) autotrophs
  - (2) parasites
  - (3) fungi
  - (4) decomposers

- 4 When organisms break the bonds of organic compounds, the organisms can
- (1) use the smaller molecules to plug the gaps in the cell membrane to slow diffusion.
  - (2) use the energy obtained to digest molecules produced by respiration that uses oxygen.
  - (3) obtain energy or reassemble the resulting materials to form different compounds.
  - (4) excrete smaller amounts of solid waste materials during vigorous exercise.

- 5 Which statement best describes cellular respiration?
- (1) It occurs in animal cells but not in plant cells.
  - (2) It converts energy in food into a more usable form.
  - (3) It uses carbon dioxide and produces oxygen.
  - (4) It stores energy in food molecules.

- 6 The production of energy-rich ATP molecules is the direct result of
- (1) recycling light energy to be used in the process of photosynthesis
  - (2) releasing the stored energy of organic compounds by the process of respiration
  - (3) breaking down starch by the process of digestion
  - (4) copying coded information during the process of protein synthesis

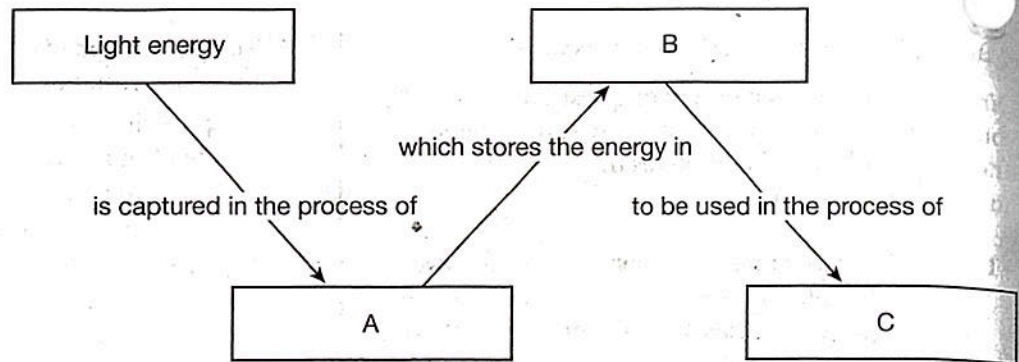
- 7 The green aquatic plant represented in the diagram below was exposed to light for several hours. Which gas would most likely be found in the greatest amount in the bubbles?



- (1) oxygen
  - (2) nitrogen
  - (3) ozone
  - (4) carbon dioxide
- 8 Which process is directly used by autotrophs to store energy in glucose?
- (1) diffusion
  - (2) photosynthesis
  - (3) respiration
  - (4) active transport
- 9 In heterotrophs, energy for the life processes comes from the chemical energy stored in the bonds of
- (1) water molecules
  - (2) oxygen molecules
  - (3) organic compounds
  - (4) inorganic compounds



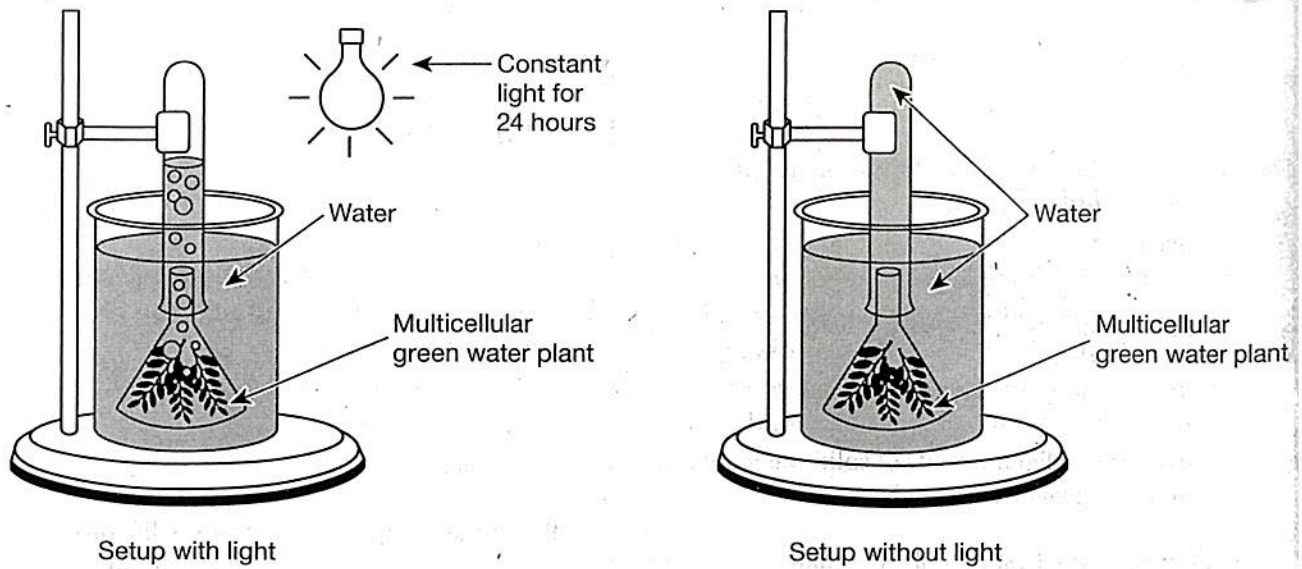
10 Which set of terms best identifies the letters in the diagram below?



	A	B	C
(1)	photosynthesis	inorganic molecules	decomposition
(2)	respiration	organic molecules	digestion
(3)	photosynthesis	organic molecules	respiration
(4)	respiration	inorganic molecules	photosynthesis

**PART B**

11 An experimental setup is shown in the diagram below. Which hypothesis would most likely be tested using this setup?



- (1) Green water plants release a gas in the presence of light.
- (2) Roots of water plants absorb minerals in the absence of light.
- (3) Green plants need light for cell division.
- (4) Plants grow best in the absence of light.