

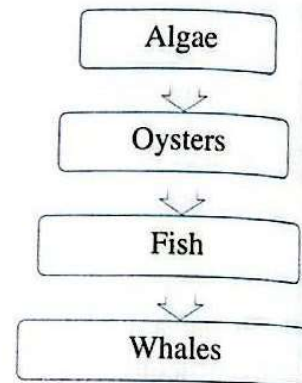
- 41 Increasing the percentage of CO_2 in water leads to
- (a) increasing acidification and calcification
 - (b) increasing acidification and reducing calcification
 - (c) reducing acidification and increasing calcification
 - (d) reducing acidification and calcification

- 42 What is the probable result of increasing the temperature of an aquatic environment on the organisms living in it?
- (a) Difficulty in breathing.
 - (b) Increasing photosynthesis process.
 - (c) Reducing calcification rate.
 - (d) Increasing activity of living organisms.

- 43 Which of the following is greatly affected by the absence of calcium carbonate in water?
- (a) Photosynthesis process for plants.
 - (b) Respiration of invertebrates.
 - (c) Reproduction of fish.
 - (d) Formation of mollusks shell.

- 44 * Which of the following statements is correct about the life in aquatic environment?
- (a) The increase of respiration is accompanied by increasing calcification.
 - (b) The increase of organic decomposition is accompanied by a decrease in water acidity.
 - (c) The increase of acidification is accompanied by an increase in respiration.
 - (d) The increase of water acidity is accompanied by reduced calcification.

- 45 * The opposite diagram represents a part of food chain in an aquatic environment. Which organisms that their growth is directly negatively affected by a decrease or an increase in the concentration of dissolved carbon dioxide gas in water?



	Decreasing the concentration of CO_2	Increasing the concentration of CO_2
(a)	Fish	Algae
(b)	Oysters	Whales
<u>(c)</u>	Algae	Oysters
(d)	Fish	Whales

- 46 * If the energy flow rate that reaches from the green algae to the aquatic larvae that feed on it decreases, it indicates that
- (a) the number of mollusks that feed on larvae increases
 - (b) the percentage of dissolved oxygen gas in water increases
 - (c) the algae lost their ability to produce energy due to organic remains
 - (d) the percentage of dissolved carbon dioxide gas in water decreases

- 47 When carbon dioxide gas combines with water, it produces

(a) HCHO

(b) H₂CO₃

(c) CH₃OH

(d) HCOOH

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Second Miscellaneous Questions

- 1 Write the scientific term for each of the following statements:

- (a) * The ability of the solute to dissolve in the solvent forming a homogeneous solution at specific temperature and pressure.
* The maximum amount of solute in a given volume of solvent to form a saturated and stable solution at specific temperature and pressure.
- (b) * A biological process carried out by phytoplankton, algae and aquatic plants that plays a role in producing oxygen in water.
* A biological process through which organic substances are formed in the presence of light and chlorophyll.
- (c) The movement of molecules and ions from a high concentrated medium to a low concentrated medium.
- (d) Reducing the pH value of water.
- (e) An acid formed as a result of dissolving CO₂ gas in water.
- (f) A solid substance that is slightly soluble in water and used in the formation of the shells of marine animals.
- (g) A process on which many marine organisms depend to form their shells and skeletons.
- (h) A water soluble substance is formed when carbon dioxide gas dissolved in water reacts with calcium carbonate.

- 2 Give reasons for:

- (a) At normal conditions, the ratio between the concentrations of CO₂ and O₂ gases in water differs from their concentrations in air.
- (b) The percentage of oxygen dissolved in Red Sea water is higher than that in water of Suez Gulf.
- (c) The concentrations of CO₂ and O₂ gases in the Mediterranean Sea water is lower than their concentration in the Nile River water.
- (d) High temperatures in the marine environments may threaten the life of aquatic plants.
- (e) The rate of photosynthesis process for an aquatic plant at 20°C differs from its rate at 50°C.
- (f) The high percentage of carbon dioxide gas in the atmosphere affects the pH value of water.
- (g) Changing the pH value of water threatens the life of some living organisms.
- (h) When the percentage of carbon dioxide gas increases in water, the respiration process of marine organisms is negatively affected.
- (i) The high percentage of carbon dioxide gas in water harms some of marine organisms as oysters and corals.
- (j) Food chains may be negatively affected by the decrease in the percentage of carbon dioxide gas dissolved in water.