

11 Which of the following electromagnetic rays has its energy almost completely absorbed after 10 cm of penetrating the ocean surface? ?

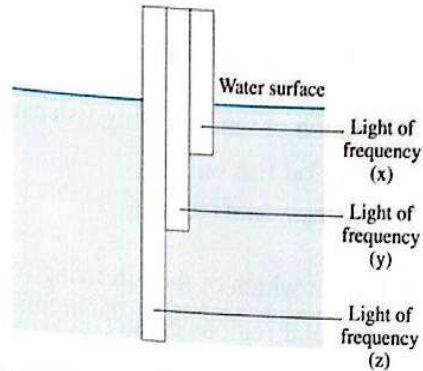
- (a) Blue rays. (b) Red rays. (c) Green rays. (d) Infrared rays.

12 In clear tropical water, only about of the energy of visible light incident on the surface reaches 100 m depth and most of this light in the range of light.

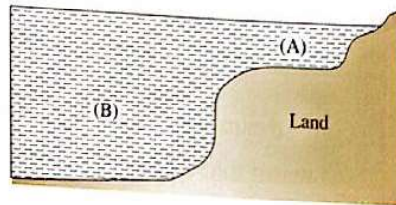
- (a) 1% , blue (b) 1% , red (c) 10% , blue (d) 10% , red

13 * The opposite diagram shows three beams of visible light with frequencies x, y and z passing through ocean water, so the correct order of the frequencies of these beams is

- (a) $x > y > z$
 (b) $z > y > x$
 (c) $x = y = z$
 (d) $z > x > y$



14 The opposite diagram illustrates two different regions of the ocean: a shallow coastal region (A) and an open ocean region (B). How do the colors of the two regions (A) and (B) appear, respectively?



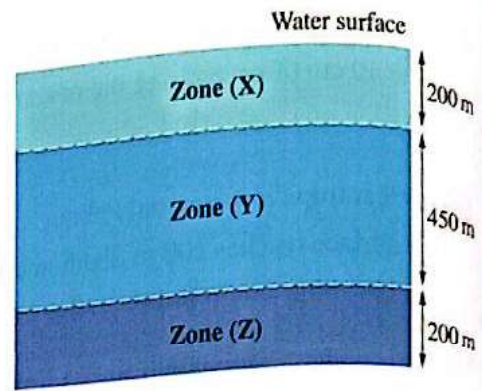
	Region (A)	Region (B)
(a)	Bluish	Greenish
(b)	Greenish	Reddish
(c)	Greenish	Bluish
(d)	Bluish	Reddish

The effect of solar radiation on aquatic environments

15 The main condition for the existence of plants in abundance in an aquatic environment is the

- (a) availability of fresh water
 (b) increase in the salinity level
 (c) decrease in carbon dioxide gas level
 (d) availability of suitable amount of light for completing the photosynthesis

- 16 * The opposite figure represents three zones (X), (Y) and (Z) in the ocean water, which of these zones is the most suitable for the existence of autotrophic algae in it?



- (a) Zone (X).
 (b) Zone (Y).
 (c) Zone (Z).
 (d) The three zones are of the same probability.
- 17 Which of the following fish can be found in the Atlantic Ocean at the equator?
 (a) Cod fish only. (b) Barracuda fish only.
 (c) Tuna and cod fish. (d) Barracuda and tuna fish.
- 18 * In which of the following seasons is the decline rate in the marine organisms number in polar regions greater?
 (a) At summer. (b) At spring. (c) At fall. (d) At winter.
- 19 From the marine organisms that live(s) in the cold regions is/are
 (a) coral reefs (b) cod fish (c) tuna fish (d) barracuda fish
- 20 Gulf stream is an oceanic current that flows towards Western Europe and it is
 (a) warm that enhances marine biodiversity (b) warm that reduces marine biodiversity
 (c) cold that enhances marine biodiversity (d) cold that reduces marine biodiversity
- 21 What is the main effect of Gulf stream on Western Europe climate?
 (a) Reduces temperatures, making the climate very cold.
 (b) Reduces temperatures, making the climate more moderate.
 (c) Raises temperatures, making the climate very hot.
 (d) Raises temperatures, making the climate more moderate.

Second Miscellaneous Questions

- 1 Give reasons for:
- (a) Incompletion of the photosynthesis process in the ocean's twilight zone.
 (b) The solar radiation has an important role in keeping the ecological balance in the aquatic environment.
 (c) Algae and phytoplankton are abundant in the surficial layers of water.
 (d) Coral reefs flourish in shallow water near to the equator.
 (e) The decline of solar radiation in polar regions during winter affects the aquatic food chains.