



Integrated Sciences

Home Work

20

25

3rd
Week

Home Work

Prepared and Revised by
**Science Development
Office**

Home work

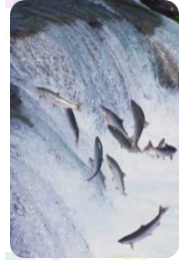
Choose the correct answer

(1) Deep-sea fish have arteries and veins that are

Choice	Strength and Durability	Diameter
a	Strong and Durable	Thin
B	Small	Thin
C	Strong and Durable	Thick
d	Small	Thick

(2) The figure shows the migration of salmon, which is adaptation.

- a) Behavioral adaptation
- b) Functional adaptation
- c) Structural adaptation
- d) Functional Structural adaptation



(3) If the concentration of salt solution (x) is greater than concentration of salt solution (y), and they are separated by a semi-permeable membrane , which of the following moves due to the effect of osmosis

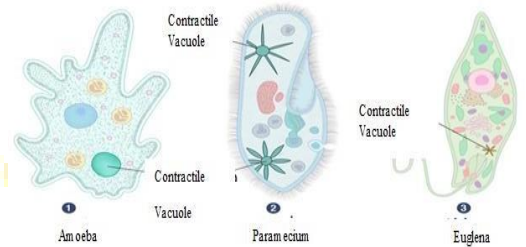
- a) Salt from solution (x) to solution (y)
- b) Salt from solution (y) to solution (x)
- c) Water from solution (x) to solution (y)
- d) Water from solution (y) to solution (x)

(4) The solution with the higher concentration has an osmotic pressure

- a) Higher, and draws water from the less concentrated solution.
- b) Higher, and pushes water towards the less concentrated solution.
- c) Less, and pulls water from the less concentrated solution.
- d) Less, and pushes water toward the less concentrated solution.

(5) The importance of the contractile vacuole in a unicellular organism found in fresh water:

- a) Get rid of excess water
- b) Reduce metabolic rate.
- c) Urea secretion to equalize osmotic pressure
- d) Increases the efficiency of oxygen extraction



(6) Which of the following represents the correct order of osmotic pressure?

- a) (Freshwater - solutes inside saltwater fish - solutes inside freshwater fish - Seawater)
- b) (Freshwater - solutes inside freshwater fish - solutes inside saltwater fish - Seawater)
- c) (Seawater - solutes inside freshwater fish - solutes inside saltwater fish - Freshwater)
- d) (Seawater - solutes inside saltwater fish - solutes inside freshwater fish - Freshwater)

(7) The osmotic pressure in the bodies of freshwater fish is

- a) Low, which leads to losing water from its body.
- b) High, which leads to losing water from its body.
- c) Low, which leads to gaining water to its body.
- d) High, which leads to gaining water to its body.

(8) The osmotic pressure in the bodies of saltwater fish is

- a) Low, which leads to losing water from its body.
- b) High, which leads to losing water from its body.
- c) Low, which leads to gaining water to its body.
- d) High, which leads to gaining water to its body.

(9) The streamlined body, mucus and scales help fish to reduce water resistance for moving in water and this is considered as adaptation

- a) Behavioral
- b) Functional
- c) Structural
- d) Osmotic

(10) What is the environment in which each of the following occurs for salmon? choose

Choice	Environment in which it lives until maturity sexual	Environment where it born	Reproduction environment
a	Sea	River	River
b	River	Sea	River
c	River	River	Sea
d	Sea	Sea	River

(11) The importance of the air bladder (buoyancy sac) for bony fishes.

- a) Helps her float

- b) Improves its ability to extract oxygen
- c) Reduces water resistance to movement.
- d) Makes it withstand high pressure

(12) 10% salt solution and 15% sugar solution are separated by a semi permeable membrane. What happens?

- a) Water moves from salt solution to the sugar solution
- b) Water moves from the sugar solution to the salt solution.
- c) Undissolved salt moves from the salt solution to the sugar solution.
- d) Undissolved sugar moves from the sugar solution to the salt solution

(13) How do deep-sea fish adapt to each of the following, and what type of adaptation in each case:

- (a) Lack of oxygen
- (b) Increasing pressure
- (c) Lack of light

(14) The figure shows an ice fish. What do you know about this fish in terms of:

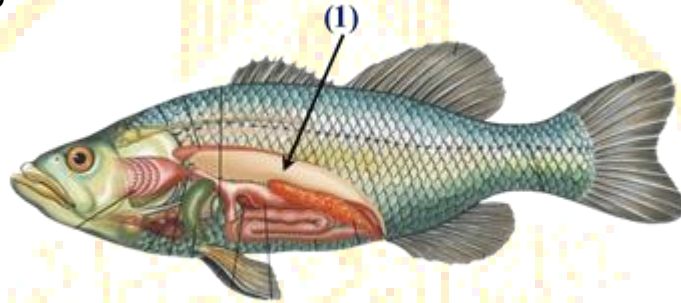
- Where do they live?
- The depth at which they live?
- What type of adaptation according to the surrounding environment?



إدارة تنمية صناعة العلوم

2024 - 2025

(15) What is the name of the component indicated by arrow, and what is its importance in adapting to the freshwater environment?



(16) Which of the following physical quantities is considered as a measure of average kinetic energy of particles in a body?

- a) The amount of heat gained or lost
- b) Body temperature
- c) Work done on the object
- d) Mass of the body molecules

(17) The following data table shows the change in temperature of equal masses of different materials (Δt) at each one gains the same amount of heat.

Substance	Change in temperature ($\Delta t^{\circ}\text{C}$)
W	5
X	10
Y	15
Z	20

Which substance W, X, Y or Z has the largest specific heat?

- a) Substance W
- b) Substance X
- c) Substance Y
- d) Substance Z

(18) Which of the following values on the kelvin scale is equivalent to -10°C ?

- a) 263 k
- b) 273 k
- c) 283 k
- d) 303 k

(19) A certain amount of a substance whose temperature rises from 30°C to 310 k. then the change in temperature is.....

- a) 7 k
- b) 37°C
- c) 280 k
- d) 280°C

(20) The following table data shows the specific heat of a group of different substances W, X, Y, Z

Substance	The specific heat(J/KG. $^{\circ}\text{C}$)
W	450
X	385
Y	897
Z	130

When equal masses of these materials are given the same amount of heat, Which material W, X, Y or Z have a higher temperature?

- a) Substance W
- b) Substance X
- c) Substance Y
- d) Substance Z

(21) The amount of heat required to raise the temperature of 0.9 kg of copper by 70°C equal.....(The specific heat of copper equal 385 J/Kg.K)

- a) $2.43 \times 10^4\text{ J}$

- b) $1.19 \times 10^5 \text{ J}$
- c) $4.14 \times 10^4 \text{ J}$
- d) $2.03 \times 10^5 \text{ J}$

(22) The absolute zero is equivalent to.....

- a) 0°C
- b) 273°C
- c) 0 k
- d) 273 k

(23) If you know that the normal human temperature is 37°C , then on the Kelvin scale it is equivalent to

- a) 37 k
- b) 273 k
- c) 300 k
- d) 310 k

(24) If you know that the specific heat of glass is $840 \text{ J/Kg}^\circ\text{C}$, it is equivalent to

- a) 3.08 J/Kg.K
- b) 567 J/Kg.K
- c) 840 J/Kg.K
- d) 1113 J/Kg.K

(25) When the same amount of heat was given to four samples of equal mass but of different materials, the following was observed:

- a) The temperature of the sample W of material increases by 20°C
- b) The temperature of the sample X of material increases by 40°C
- c) The temperature of the sample W of material increases by 60 K
- d) The temperature of the sample W of material increases by 80 K

Which material has the highest specific heat?

- 1) Substance W 2) Substance X 3) Substance Y 4) Substance Z

(26) What is meant by a substance of 2k gains an amount of heat of 10000J and its temperature rises by 10°C ?

(27) What are the factors affecting the amount of heat gained or lost by a substance for changing its temperature?

(28) The deeper the water, the more intense the light below the water surface

- a) Gradually increases b) Gradually decreases
c) Decreases then increases d) Increases then decreases

(29) Which of the following statements represents the correct arrangement of the luminous zones in water according to their depth from top to bottom?

- A- Twilight zone - Aphotic zone - Euphotic zone
B- Aphotic zone - Euphotic zone - Twilight zone
C- Euphotic zone - twilight zone - Aphotic zone
D- twilight zone - Euphotic zone - Aphotic zone

(30) The greatest amount of light that penetrates the water surface when the angle between the falling sunlight and the water surface is equal to

- a) 0° b) 45° c) 90° d) 120°

(31) Which of the following electromagnetic rays completely absorbs its energy after about 10 cm of penetration to the ocean surface?

a) Violet rays

b) Ultra violet rays

c) Red rays

d) Infrared

(32) Which of the following statements is true?

a) Water depth affects only light absorption.

b) Water depth affects only light intensity.

c) Water depth affects both light absorption and intensity.

d) The depth of water doesn't affect either absorption or light intensity.

(33) When the light reaches a depth of about 10 m below the ocean surface, the water absorbs more than of visible light energy

a) 20% b) 30% c) 40% d) 50%

(34) In the clear tropical water, only about of visible light reaches at a depth 100 m mostly in the color range.

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

(35) In the process of photosynthesis, energy is converted into energy.

a) Chemical - Solar

b) Solar - chemical

c) Electrical - Solar

d) Solar - Electrical

(36) The process of photosynthesis occurs mainly in the layers of water

a) epipelagic

b) mesopelagic

c) bathypelagic

d) abyssopelagic



الإدارة المركزية لتطوير المناهج
إدارة تنمية مادة العلوم

2024 - 2025