A

E906-Bio

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SUMMATIVE ASSESSMENT - 1 2026-27
BIOLOGY

Class : IX

Time : 1½ Hours
Score : 40

Instructions

- First 15 minutes is given as cool off time. You may use the time to read the questions and
- plan your answers.
- Read the questions carefully and answer the questions.
- Keep in mind the score and time while answering the questions.
- Choices are given for questions 5, 9, 12, 17 and 18.

Answer all questions from 1 to 4. 1 score each. **(4 x 1=4)**

1. The various stages of digestion in amoeba are given below. Analyse them and select the answer that is correctly arranged. (1)

   i) Enzymes digest food.
   ii) Undigested waste is expelled through the cell surface.
   iii) Engulfs the food into the cell using pseudopodia.
   iv) Food is taken into the food vacuole.

   a) (iii) → (iv) → (i) → (ii)
   b) (iv) → (iii) → (i) → (ii)
   c) (iii) → (i) → (iv) → (ii)
   d) (i) → (iii) → (iv) → (ii)

2. Examine the statements related to the light phase of photosynthesis and choose the correct answe

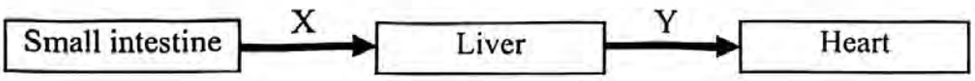
   i) The activities in this phase were explained by the scientist Melvin Calvin.
   ii) The splitting of water takes place in this stage. (1)

   a) Both (i) and (ii) are correct
   b) Only (i) is correct
   c) Only (ii) is correct
   d) Both (i) and (ii) are incorrect

3. Find examples of hormones from the box. (1

Testosterone, Pepsin, Estrogen, Salivary amylase, Lipase

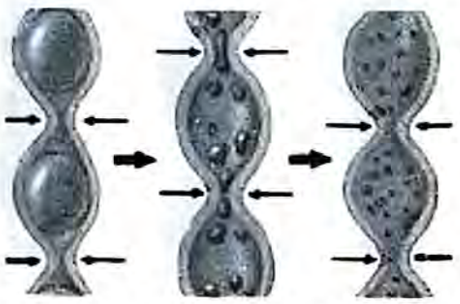
4. Observe the illustration related to the transport of nutrients through the blood and identify the blood vessels indicated by 'X' and 'Y' correctly to find the answer. (1)



a) X – Portal vein, Y – Hepatic vein
b) X – Vena cava, Y – Hepatic vein
c) X – Hepatic vein, Y – Aorta
d) X – Hepatic vein, Y – Portal vein

Answer all questions from 5 to 11. 2 score each. **(7 x 2=14)**

5. A. Observe the illustration and answer the following questions.

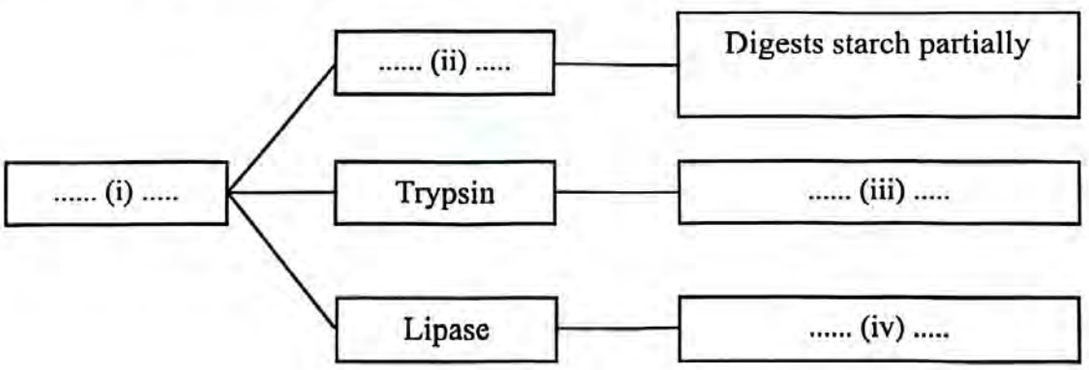


a) Identify the mechanical process indicated in the illustration. (1)

b) How does this process help in the digestion of food? (1)

OR

B. Complete the given illustration using the hints provided.



Hints:

i- Digestive juice, ii- Enzyme, iii, iv – Function (2)

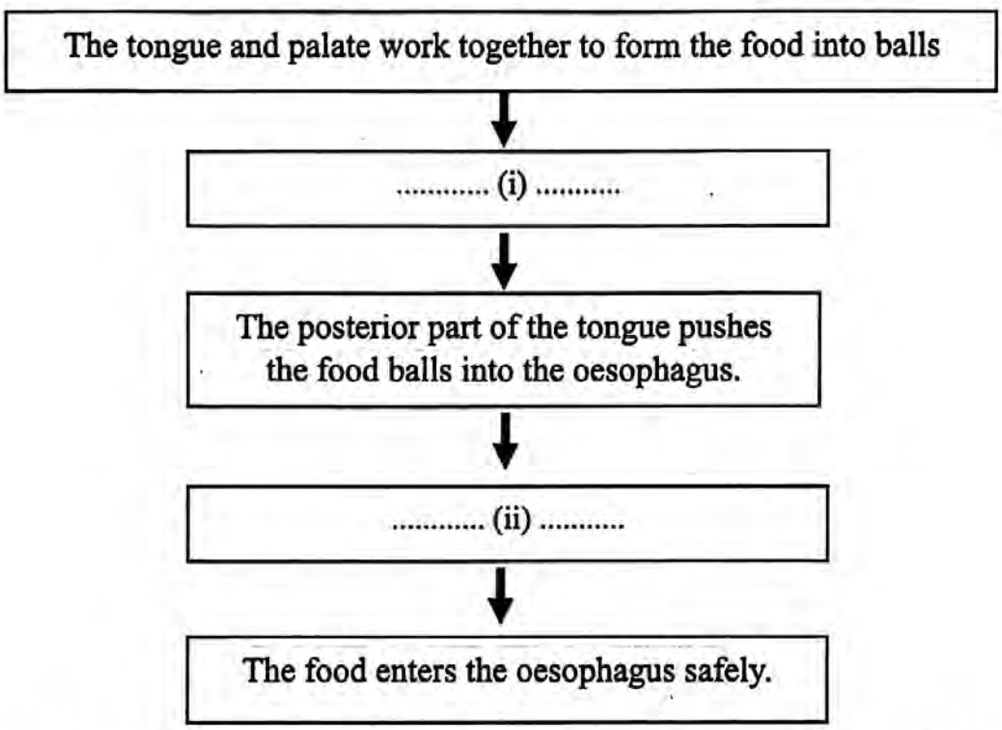
6. The table related to the exchange of substances through the plasma membrane is given below. Analyse the table and answer the questions.

Substance exchanged	Process of exchange
Water molecules	P
Oxygen molecules	Q

a) Identify the processes 'P' and 'Q' (1)

b) Write the similarity between the processes 'P' and 'Q'. (1)

7. Complete the missing part in the illustration related to the swallowing of food. (2)



8. **'Digestion in Hydra is completed through processes that occur both outside the cells and inside the cells'.** (2)

Describe the process of digestion in Hydra, explained in the statement.

9. A. Evaluate the statement and answer the following questions.
Plants store the glucose produced during photosynthesis in the form of starch.

a) Why is it necessary for plants to store glucose in this form? (1)

b) In what form is starch stored in oilseeds and pulses? (1)

OR

B. **Both anabolism and catabolism are equally essential for the survival of an organism.** (2)
Explain this statement with examples.

10. Analyse the description given below and answer the questions.

The small intestine has a structure that is well adapted for digestion and absorption nutrients. The finger-like projections present on its inner lining increase the surface area available for absorption.

a) What are the finger-like projections mentioned in the description? (1)
b) How do these projections help in the absorption of the nutrients formed as a result of the digestion of proteins and fats? (1)

11. **The government has launched a special project to increase the extent of mangrove forests in the coastal areas of the state**- Newspaper report.

Write any two environmental conservation benefits of the project mentioned in the newspaper report. (2)

Answer all questions from 12 to 17. 3 score each. **(6 x 3=18)**

12. A. Analyse the information given in the box and answer the questions.

A	B
The simple components formed as a result of lipid digestion are transported through this fluid.	The transport of substances takes place between this fluid and the cells

a) Identify the fluids 'A' and 'B'. (1)
b) How are these fluids formed? (2)

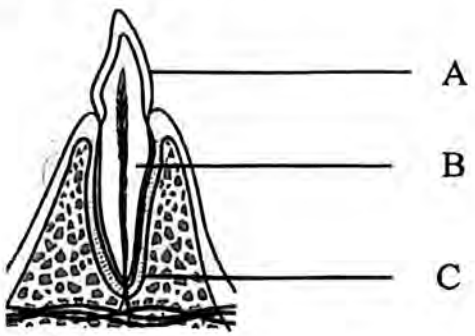
OR

B. Some parts of the lymphatic system are given in the box. Analyse them and answer the questions.

Lymph, lymph vessels, lymph nodes

a) Name any two other parts of this organ system. (1)
b) What is the structural difference of lymph from blood? (1)
c) What is the function of this organ system? (1)

13. Observe the figure given below and answer the questions.

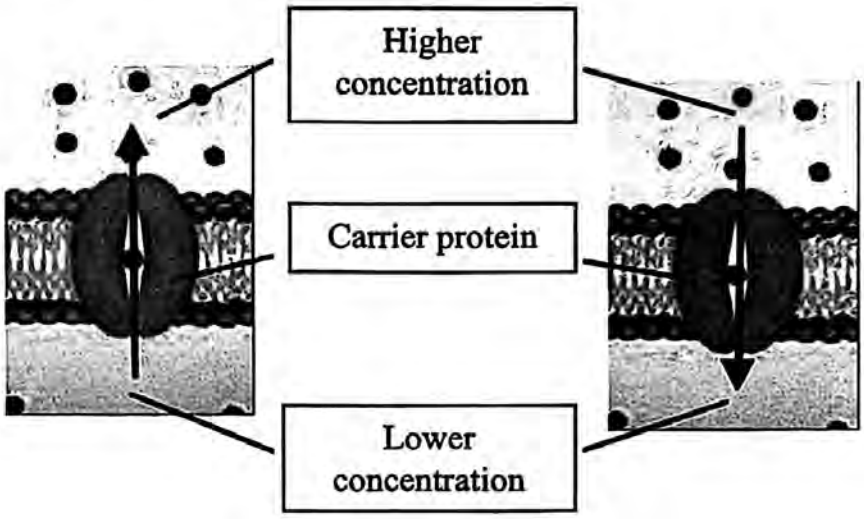


a) Identify parts 'A' and 'B'. (1)

b) Write the function of part 'C'. (1)

c) Write any two habits that should be followed to maintain dental health. (1)

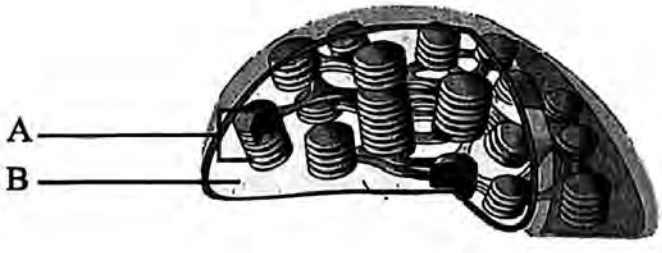
14. Observe the illustrations of processes A and B related to the exchange of substances through the plasma membrane and complete the table. (3)



→ Direction of flow

	A	B
Name of the process	..... (i)	..... (ii) .....
Energy requirement	..... (iii)	..... (iv) .....
Direction of flow	From a region of lower concentration to a region of higher concentration.	..... (v) .....
The substance that is transported	..... (vi)	Glucose, ions.

15. An illustration showing the structure of a chloroplast is given. Observe it and answer the following questions.



a) Identify parts 'A' and 'B'. (1)

b) Name the stages of photosynthesis that take place in A and B respectively. (1)

c) Write the process that occurs in B as part of photosynthesis. (1)

16. Evaluate the ecological and economic consequence due to the depletion of plant resources on the Earth. (3)

17. A. **The mode of entry of substances from the external environment into the cytoplasm differs in plants and animals.**

Evaluate the above statement and answer the following questions:

a) Write any two pathways by which substances enter the cytoplasm from the external environment in plants. (2)

b) How does the mode of entry of substances into the cytoplasm differ in animals? (1)

OR

B. **"Changes in the chemical composition of the internal environment may be life-threatening."**
Evaluate this statement and answer the questions given below.

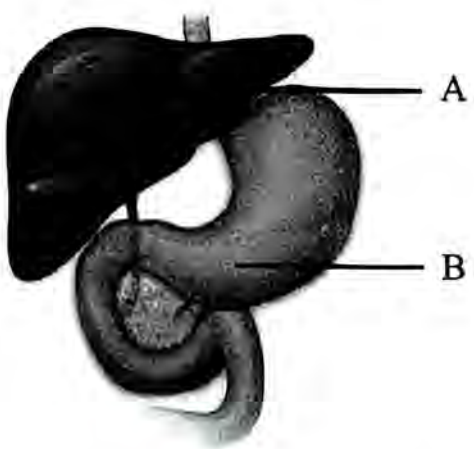
a) Compare the internal environment in plants and animals. (1)

b) What is meant by homeostasis? (1)

c) Explain the need for homeostasis to be maintained based on the situation in the statement. (1)

Answer the question 18. 4 scores. **(1 x 4=4)**

18. A. Observe the illustration of a part of digestive system given below and answer the following questions.



a) Identify 'A' and 'B'. (1)

b) Explain the role of the secretion produced by A in the digestion of lipid. (1)

c) Write the functions of the following components present in the digestive juice produced by 'B'. (2)

- Hydrochloric acid (HCl)
- Mucus

OR

18. B. Based on the blood vessels labelled 'A' and 'B' in the figure given below, answer the following questions.

A B

a) Identify the blood vessels 'A' and 'B'. (1)

b) Compare the characteristics of blood vessels A and B based on the following indicators: (3)

Indicators:

i) Direction of blood flow (in relation to the heart)

ii) Characteristics of the wall

iii) Presence of valves