

Class : IX

Biology

Time : 1½ Hours

Score : 40

Instructions

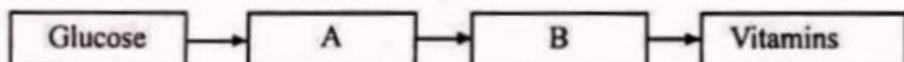
- First 15 minutes is given as cool off time. You may use the time to read the questions and plan your answers.
- Read the questions carefully and answer the questions.
- Keep in mind the score and time while answering the questions.

Answer any five from questions 1 to 6. Each question carries 1 score.**(5x1=5)**

1. In plants, glucose formed as a result of photosynthesis is stored as starch. Analyse the statement and give reason. (1)
- Glucose is insoluble in water but starch is soluble in water.
 - Both glucose and starch are insoluble in water.
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2. The spleen, bone marrow and thymus gland constitute system. (1)

3. Complete A and B appropriately in the given flow chart showing the formation of vitamins from glucose in plants. (1)



4. Identify the word relation and fill in the blanks suitably. (1)

Contraction of ventricle : Ventricular systole

Return to the previous state
of atria and ventricles :

5. Analyse the indicators given in the box and identify the part. (1)

- Located in the wall of right atrium.
- Produces the electrical impulses necessary for the contraction of heart chambers.

6. Find out the function of liver from the following. (1)

- Mechanical digestion of food is made possible by segmentation.
- Digests food with the help of enzymes.
- Absorption of nutrients takes place.
- Breaks fat into small particles.

Answer any six from questions 7 to 13. Each question carries 2 score.

(6x2=12)

7. Write down the function of the given parts in the process of swallowing.

a) Epiglottis

(1)

b) Uvula

(1)

8. The diagrams of rheo leaf cells which are placed in concentrated salt solution and pure water are given below. Observe them and answer the questions.



A



B

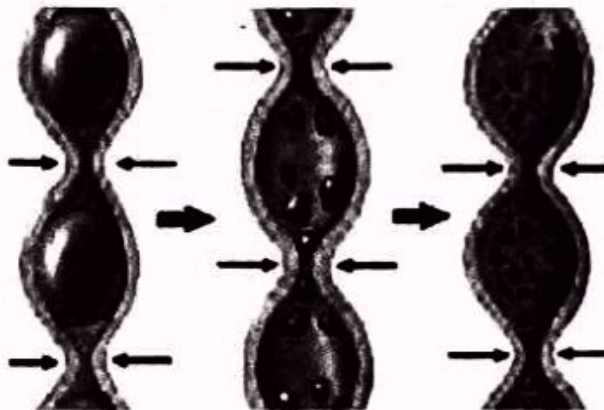
a) In which solution are the cells A and B placed?

(1)

b) Give reason for the change in cell B.

(1)

9. Observe the illustration and answer to the questions.



a) Identify the digestive process given in the illustration. In which part does this process take place.

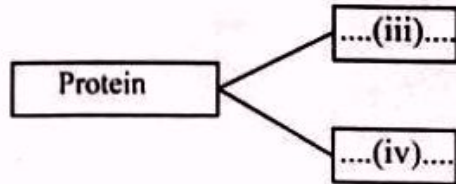
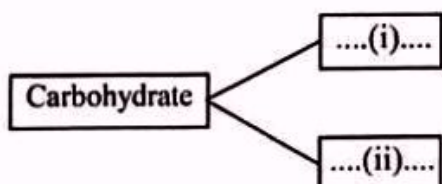
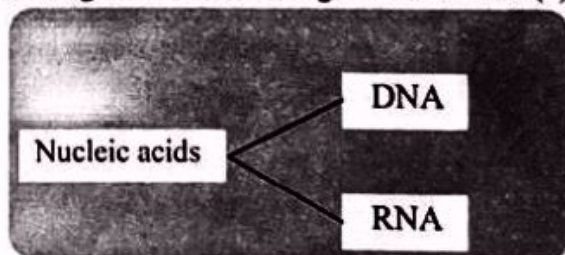
(1)

b) How does this process enable the mechanical digestion of food?

(1)

10. Complete the illustration as shown in the model using the biomolecules given in the box. (2)

DNA, enzyme, sucrose, RNA, starch, antibody, oils



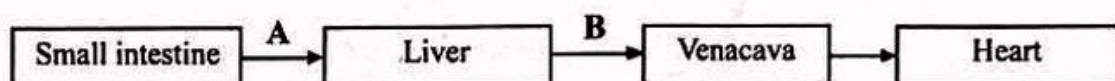
11. Choose the statements that are applicable only to facilitated diffusion from the given options. (2)
- This process takes place with the help of energy.
 - Transport of substances takes place from a region of higher concentration to a region of lower concentration.
 - Transport of water molecules through plasma membrane takes place by this process.
 - This process takes place with the help of either channel proteins or carrier proteins.
12. Complete the given table suitably. (2)

Part where digestion takes place	Mechanical digestion	Chemical digestion
Stomach(a).....	Pepsin partially digests the proteins
Mouth	Teeth help in the chewing of food.(b).....

13. All life signs are manifested by many constructive and destructive processes taking place inside the cell. Explain this statement with the help of examples. (2)

Answer any five from questions 14 to 20. Each question carries 3 score. (5x3=15)

14. Analyse the given illustration related to the absorption of nutrients in the small intestine and answer the questions.



- a) Name the blood vessels A and B. (1)
- b) Some of the nutrients absorbed in the small intestine reach heart not through the same pathway as shown in the illustration. Evaluate this statement. (2)
15. Prepare a short note on each of the following sub-topics for a seminar based on the topic 'Plants- The protectors of biosphere'. (3)
- Economic importance of plants.
 - Ecological services of Mangroves.
 - Producers of ocean ecosystem.

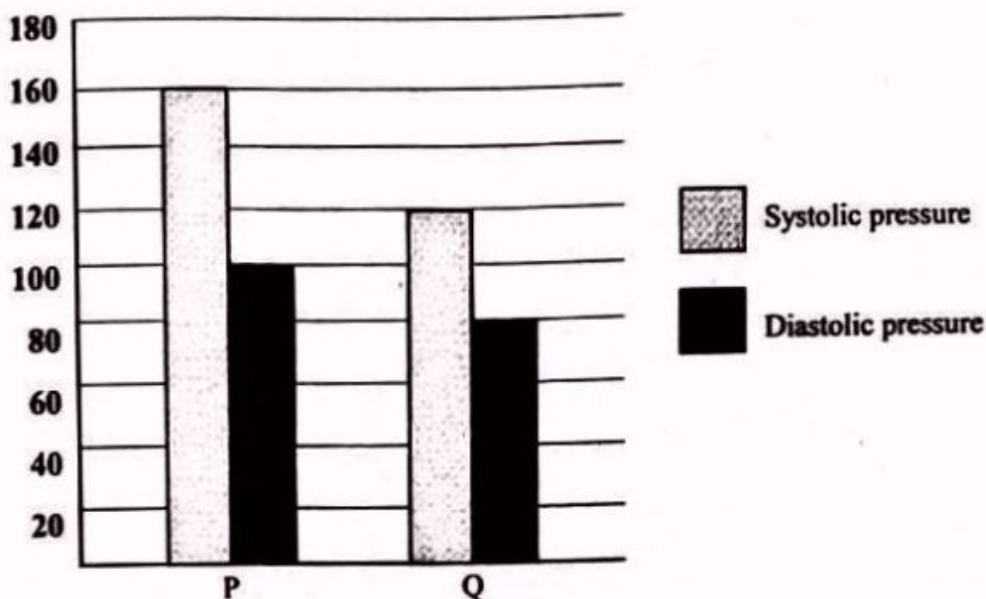
16. Tabulate those given in the box appropriately.

(3)

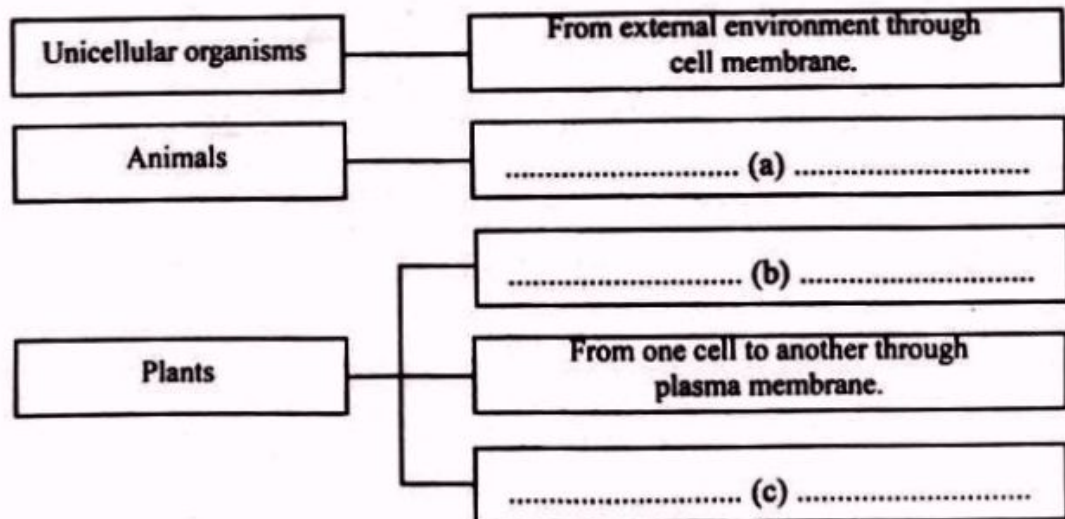
- Takes place in stroma.
- Oxygen is given out.
- Glucose is synthesized.
- Takes place in grana.
- ATP is produced.
- Light is not used.

Light phase	Dark phase

17. Blood pressure test results of individuals 'P' and 'Q' are given in the graph. Observe it and answer the questions.



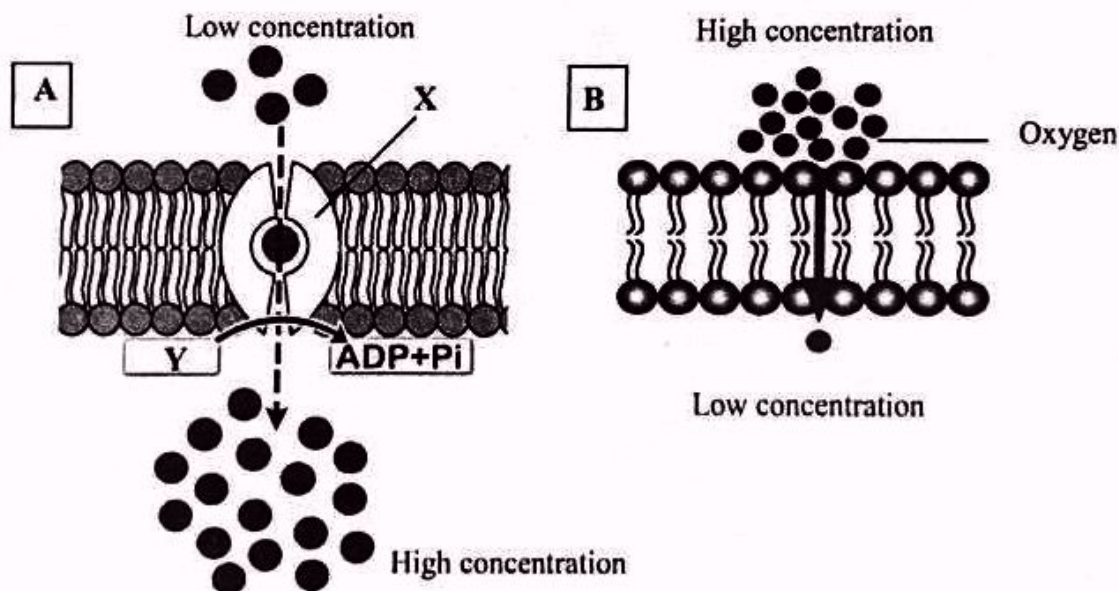
- a) Who among them has a normal blood pressure? What is the basis of your findings? (1)
- b) Explain the two types of blood pressure indicated in the graph based on the direction of blood flow. (2)
18. Complete the illustration showing the transport of substances from the external environment to cytoplasm appropriately. (3)



- a) Identify and name the parts A, B, C and D. (2)
- b) How do blood vessels A and B differ in their function? (1)
- c) What is the function of part D? (1)
22. Some hints on digestive juices are given in the table. Analyse it and answer the questions.

Digestive juices	Hints
A	Contains Hydrochloric acid
B	Enzymes are absent
C	Contains the enzyme Trypsin
D	Produced in small intestine

- a) Identify and write the names of digestive juices A and D. (1)
- b) Write names of the glands that produce digestive juices B and C. (1)
- c) How does B help in digestion even though enzymes are absent in it? (1)
- d) Write the function of hydrochloric acid present in digestive juice A. (1)
23. Observe the illustration related to the transport of substances and answer the questions.

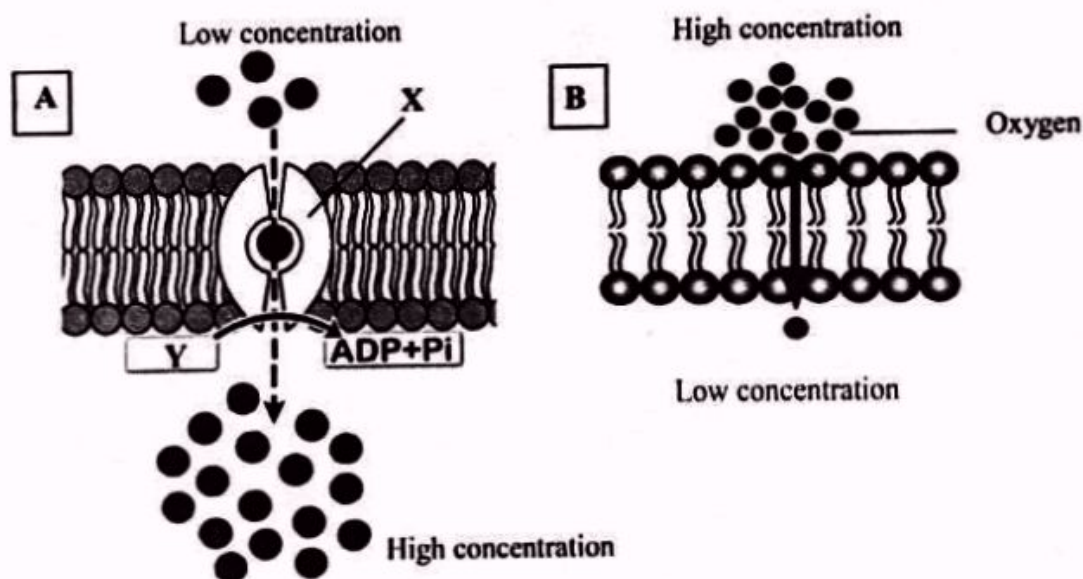


- a) Identify the processes 'A' and 'B' in the illustration. (1)
- b) Differentiate between the processes 'A' and 'B'. (2)
- c) Write down the role of 'X' and 'Y' in the process 'A'. (1)

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