



Class – X

BIOLOGY (HOLIDAY HOMEWORK)

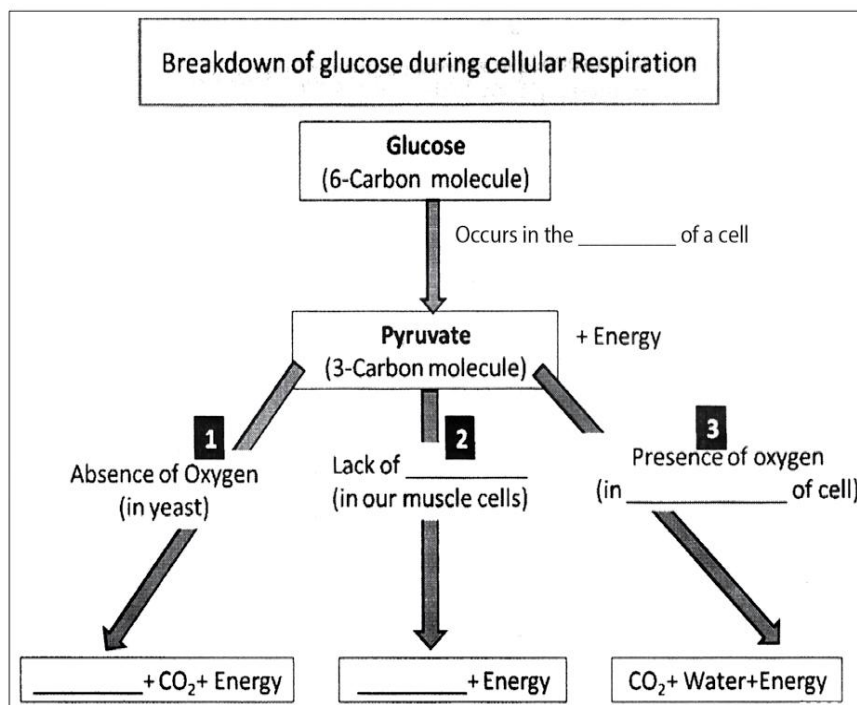
Class ▶

Date ▶

Name ▶

Roll No. ▶

Instructions: Given below is a flow chart of breakdown of glucose by various pathways. Fill in the blank spaces in the flow chart and answer the questions given below the flow chart. (5x1/2=21/2)



1. What is the specific reason for muscle cramps that are caused due to sudden physical exercise? _____ (1/2)
2. Out of the three types of reactions given in the flow chart, which reactions can be termed as aerobic? (Write the number specified in the flow chart) _____ (1)
3. Out of the three types of reactions given in the flow chart, which reactions can be termed as anaerobic? (Write the number specified in the flow chart) _____. (1)

II. Below some questions with incomplete answers are given. Choose the correct words from the box and complete the answers. Use pencils only to complete the answers.

pancreas ,glands ,hydrochloric acid ,single-celled, esophagus ,water ,environment, pancreatic enzymes ,Conversion ,Glycogen ,biosynthesis, light energy , rhythmic contraction , complex food, Starch , blood vessels ,Reduction, carbohydrates. Cellulose, , inner lining ,Amylase, sugars, digestive enzymes, gastric juice, releases, , fat, Villi, new tissues, glycerol, chemical energy ,erosion.

1. Why is diffusion insufficient to meet oxygen requirements of multi-cellular organisms like humans?

In _____ organisms the entire surface of the organisms is in contact with the environments for the diffusion of substances. In multi-cellular organisms all the cells may not be in direct contact with the surrounding _____. So simple diffusion will not meet the requirements of all the cells.

2. What is the function of food?

The functions of food are to provide materials for energy, growth, development and _____ of body constituents.

3. What is the difference between autotrophic and heterotrophic nutrition.

In autotrophs, food is synthesized from simple inorganic substance like carbon di oxide and water whereas in heterotrophs, food is derived from the _____ synthesized by the autotrophs. They have enzymes for breaking down the complex food taken from autotrophs. Examples of autotrophs are green plants, some bacteria, etc. Examples of heterotrophs are animals, fungi, etc.

4. Name the internal energy reserve in the form of carbohydrates

a) In plants - _____ b) In the human body - _____

5. Write the three events occurring during photosynthesis.

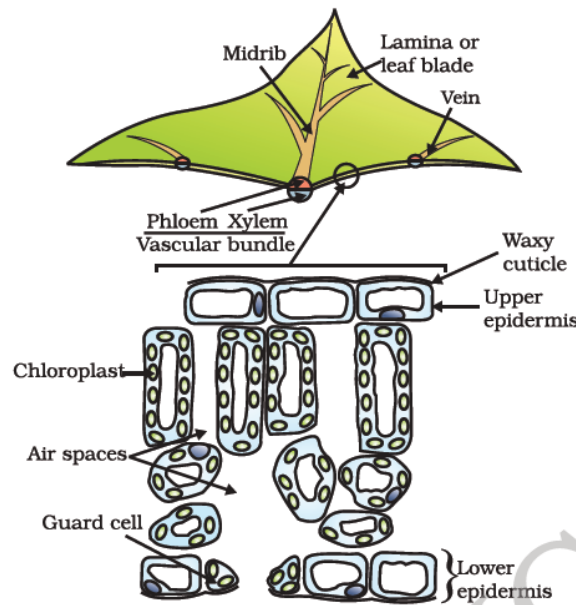
i. Absorption of _____ by chlorophyll.

ii. _____ of light energy to chemical energy and splitting of _____ molecules into hydrogen and oxygen.

iii. _____ of carbon dioxide into carbohydrates.

Photosynthesis contains two stages: light reaction and dark reaction. Light reaction occurs in the presence of light. During this reaction, light energy is converted to _____. Dark reaction occurs in the absence of light. The chemical energy stored during light reaction is used to convert or reduce carbon dioxide into _____.

6. The section of a leaf showing the internal structure of the it is given below Complete the labellings.



7. Name the different parts of the alimentary canal.

Mouth, _____, stomach, small intestine, large intestine and anus.

8. Name the digestive glands present in the body.

Salivary glands, gastric glands, _____ liver.

9. Name the enzyme present in the saliva. What is its function?

The enzyme present in the saliva is Salivary _____. It helps in the digestion of starch to _____.

10. What is the role of teeth and tongue in digestion?

Teeth crush the food into small pieces for easy swallowing and _____ to act on it. Tongue mixes this food thoroughly with saliva and moves it around the mouth.

11. What is peristaltic movement?

The _____ of muscles of the alimentary canal to push the food forward is known as peristaltic movement.

12. What happens to the food in the stomach?

Food is made acidic by _____. Protein digesting enzymes digest protein. The mucus protects the _____ of the stomach from the action of acids.

13. What causes acidity?

Imbalance in production of _____ causes acidity.

14. What is the role of sphincter muscles in the stomach?

The exit of food from the stomach is regulated by the sphincter muscle. It _____ food in small amounts into the small intestine

15. Why do carnivores have shorter intestine than herbivorous?

Herbivores eat grass which needs a longer small intestine to allow _____ to get digested. Meat is easier to digest, hence carnivores like tigers have a shorter small intestine.

16. What is the role of small intestine in the process of digestion?

Small intestine is the site of complete digestion of carbohydrates, proteins and fats. It receives the secretion of two large _____, liver and pancreas.

17. What is the role of liver in the process of digestion?

Liver produces bile-juice. The acidic food coming from the stomach is made alkaline for _____ to act, by the bile juices. Bile salts breakdown _____ into small globules increasing the efficiency of enzyme action.

18. What is the role of pancreas in the process of digestion?

Pancreas produces pancreatic juice which contains enzymes like trypsin for digesting proteins and lipase for breaking down of emulsified fats.

19. What are villi? What is their function?

_____ are finger-like projections on the inner lining of the small intestine. Villi absorb digested food. Surface area of absorption is increased by the numerous villi.

Villi are richly supplied with _____ and _____ and absorption takes place easily through the thin epithelium of villi.

20. What happens to the absorbed food in the cells?

Absorbed food is utilized for obtaining energy, building up of _____ and repair of old tissues.

21. What are the end products of digestion of carbohydrates, proteins and fats?

Carbohydrates are digested to glucose. Proteins are digested to amino acids. Fats are digested into fatty acids and _____

22. What is a peptic ulcer?

A peptic ulcer is _____ in the lining of the stomach or the first part of the small intestine, an area called the duodenum.

If the peptic ulcer is located in the stomach it is called a gastric ulcer.

III. Answer the following:

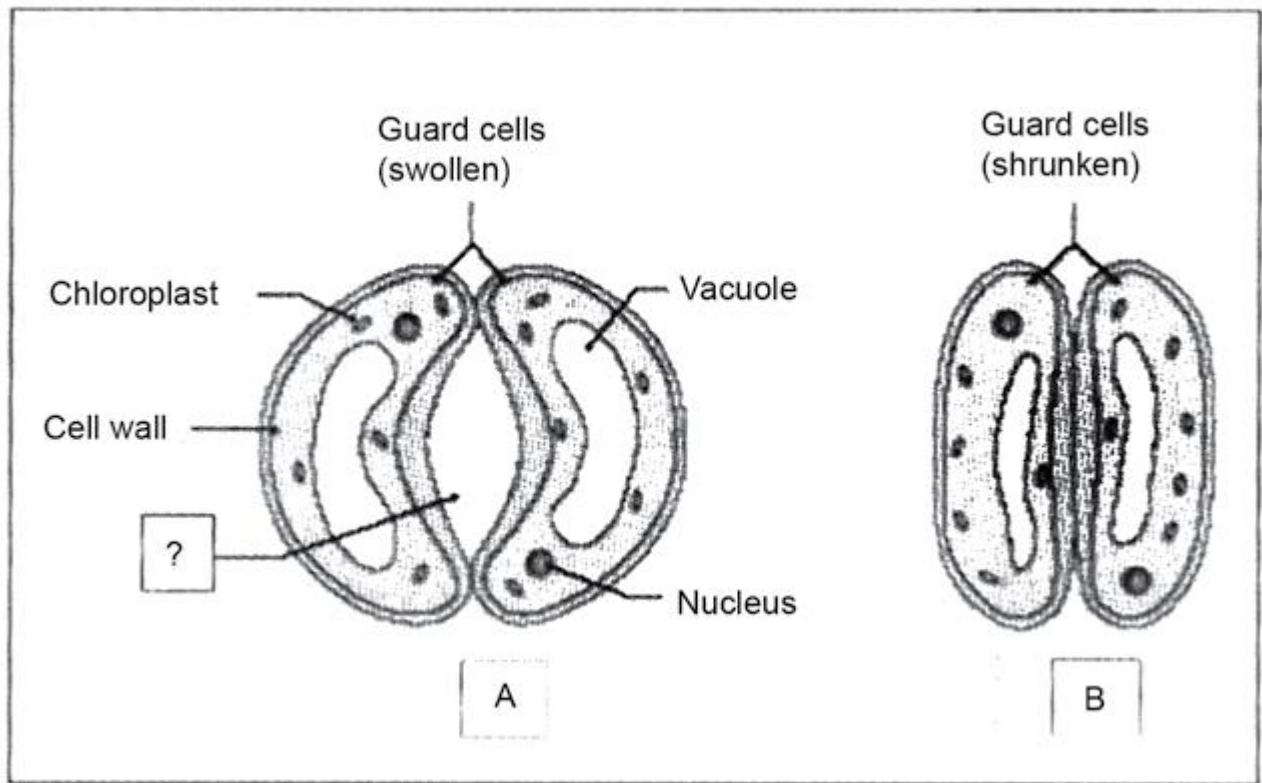
1. Bile juice does not contain any digestive juice, yet it is essential for digestion. Why so? Explain.

2. Why is the inner wall of alimentary canal not digested although the digestive enzymes can digest all the materials that make cells?

3. How does the butter in your food get digested and absorbed in the body? Explain.

4. Why is the rate of photosynthesis more during a bright sunny day compared to a cloudy day?

IV. Instructions : Observe the diagram of stomata given below and answer the questions that follow:



1. Where are stomata present in the leaf?

2. In diagram 'A', one area has been marked with a question mark '?' Name this area.

3. The area mentioned in question -'2' is not been shown diagram 'B'. What could be the reason for this?

4. The guard cells in diagram 'A' are different in shape and size from the guard cells in diagram 'B'. Which of the following sentences gives the correct reason:

a). Guard cells swell up during the day and shrink at night.

b) Guard cells swell when water flows into them causing the stomatal pore to open. They shrink when water moves out and the stomatal pore closes.

c) The uneven thickness of cell wall of the guard cells enables them to open and close at regular intervals.

5. What will happen if there are no stomata in a plant?