

## **HOLIDAYS HOMEWORK**

### **CLASS -X**

#### **BIOLOGY:**

**Prepare a P.PT on management of natural resources that include conservation of Biodiversity, fossil fuels, role of stakeholders, Ordinary people, Different movements run by the government**

**Role of Three R's to save the environment**

**Why Human resource is the major part of the environment**

#### **CHEMISTRY:**

**Collect the data of Acids and Bases used in your daily life. For eg: in kitchen, washrooms, laundry, gardening etc. of 5-6 pages.**

**PHYSICS: Make a working model on following topics:**

<b>Roll No: 1-5</b>	<b>Wind Energy</b>
<b>Roll No: 5-10</b>	<b>Hydro energy</b>
<b>Roll No: 10-15</b>	<b>Nuclear energy</b>
<b>Roll No: 15-20</b>	<b>Biogas plants</b>
<b>Roll No: 20-25</b>	<b>Solar energy</b>



**Class – X**  
**BIOLOGY (HOLIDAY HOMEWORK)**

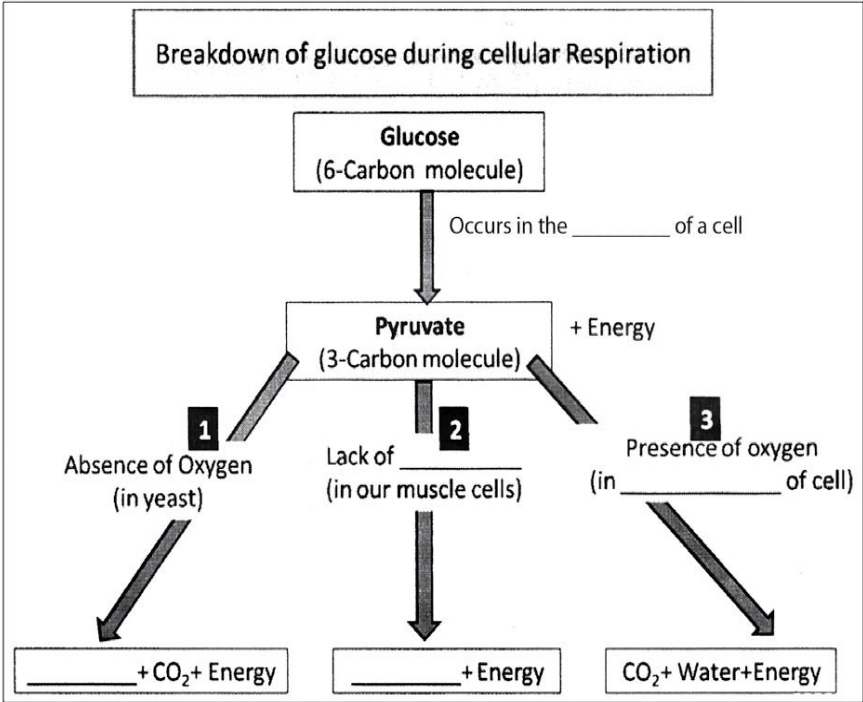
Class ▶

Date ▶

Name ▶

Roll No. ▶

I **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.**

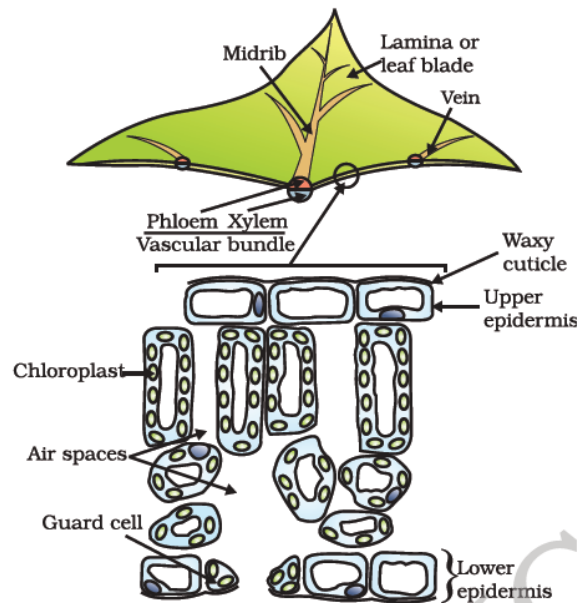
i. Absorption of \_\_\_\_\_ by chlorophyll.

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 digests 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.

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

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

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

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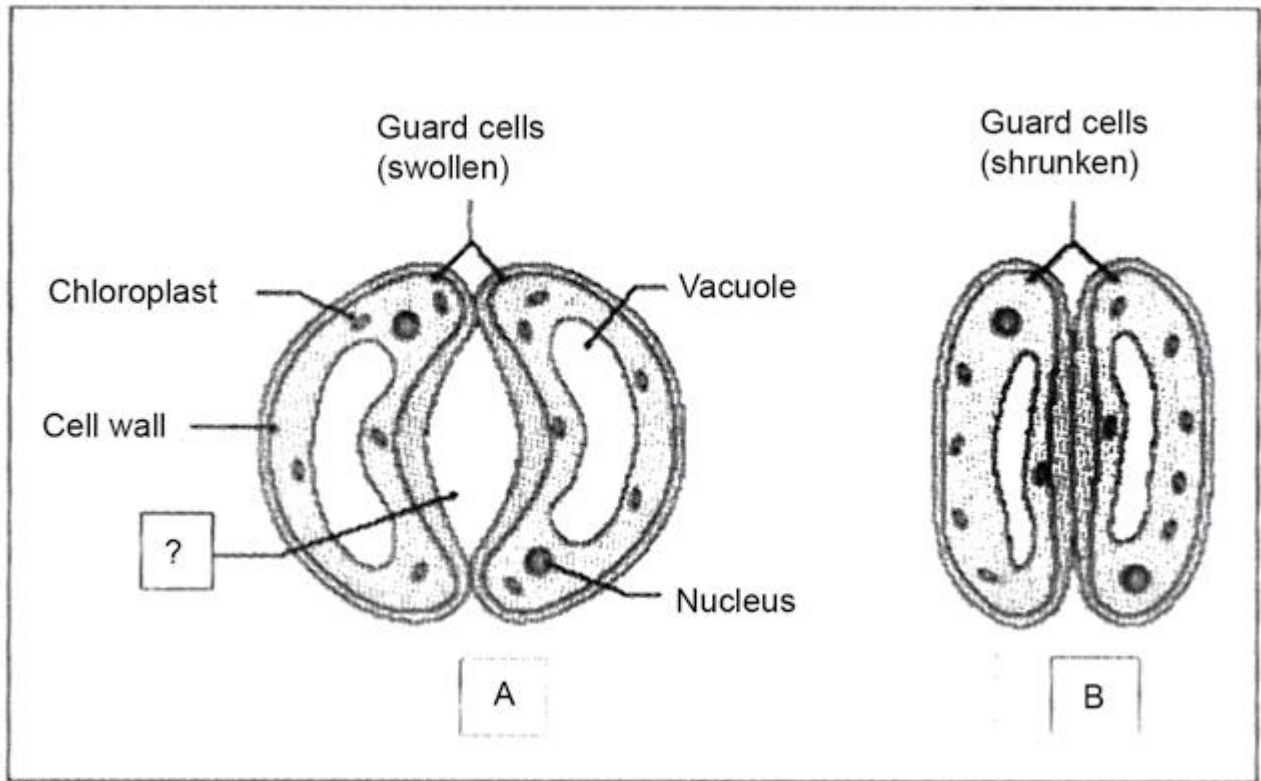
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**IV. Instructions :** Observe the diagram of stomata given below and answer the questions that follow:



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?



CLASS 10 BIOLOGY  
SA1 ASSIGNMENT(2014-15)

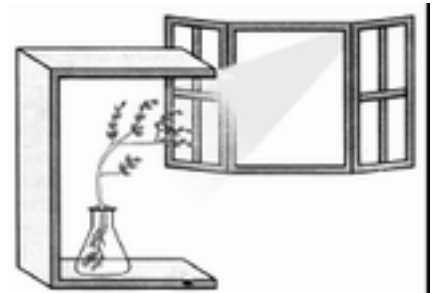
- Q1. Why are some patients of diabetes treated by giving injections of insulin?
- Q2. Which part of the brain controlled posture and balance of the body?
- Q3. What will happen if intake of iodine in our diet is low?
- Q4. What is chemotropism?
- Q5. Which hormone is responsible for the changes noticed in males at puberty ?.
- Q6. List four common features of the respiratory organs in aquatic and terrestrial animals ?
- Q7. Why is double circulation of blood necessary in human beings ?
- Q8. Leaves of a healthy potted plant were coated with vaseline to block the stomata. Will this plant remain healthy for long ? State two reasons for your answer
- Q9. What is the function of receptors in human body? What are the types of receptors found in humans? What problems are likely to occur if receptors do not work properly?
- Q10. (a) Explain how auxins help in bending of plant stem towards light. (b) State the objective of the experiment for which experimental set up is shown in the given diagram.

- Q11. Draw a labelled diagram of a neuron. List its functions
- Q12. (a) Draw a neat diagram of excretory system of human beings and label the following :

- (i) Kidney (ii) Ureter (iii) Urinary Bladder (iv) Urethra
- (b) How is urine produced?
- (c) Name two excretory products other than  $O_2$  and  $CO_2$  in plants.
- Q13. (a) Draw diagram to show the nutrition in amoeba and label the part used for this purpose.

Mention any other purpose served by this part other than nutrition.

- (b) Name the glands associated with digestion of starch in human digestive tract and mention their role.
- (c) How is required pH maintained in the stomach and small intestine?



## REVISION WORKSHEET FOR SA1 (SESSION 2013-14)

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CLASS – X

SUBJECT- BIOLOGY

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**Q A Fill in the blanks using suitable words.**

- 1 Intestine of a herbivorous animals are \_\_\_\_\_ than carnivorous animals.
- 2 Name of a proteolytic enzyme present in pancreatic juice is \_\_\_\_\_.
- 3 End products formed by the digestion of fats are \_\_\_\_\_ and \_\_\_\_\_.
- 4 Exit of waste material from anus is controlled by \_\_\_\_\_.
- 5 \_\_\_\_\_ is the fuel of a human body.

**Q B Answer the following questions in brief:**

- 1 What is the common pathway in a human body which allows the air as well as food to pass through it?
- 2 Name the blood vessel that pours blood into the left atrium.
- 3 Write down the full form of ATP.
- 4 Human beings show double circulation.

**Q C Give scientific reasons for the following:**

- 1 Why are lungs made up of very small air sacs?
- 2 Why are capillaries thin walled?
- 3 Shoot tip tends to grow towards the direction of sunlight.

**Q D Answer the following questions in detail with the help of diagram.**

- 1 Write down the three steps of Excretion in a man. Draw a well labeled diagram of human excretory system.
- 2 What is meant by reflex action? Draw a T.S of spinal cord showing reflex arc

## SUMMULATIVE II WORKSHEET

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CLASS X

SUBJECT: BIOLOGY

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### LESSON : 8, 9, 15

1. Mention the two most common methods of asexual reproduction in animals?
2. Name two organisms which reproduce by binary fission?
3. Asexual reproduction takes place through budding in :  
(a) Amoeba (b) Yeast (c) Plasmodium (d) Leishmania
4. The anther contains:  
(a) Sepals (b) Ovules (c) Carpel (d) Pollen grains
5. What technical term is given to the future shoot and future root in the embryo in a seed?
6. Name the scientist who established the laws of inheritance?
7. Define inheritance?
8. Write the scientific term used for the science of heredity and variation?
9. What is a dominant trait?
10. What is a recessive trait?
11. What is meant by the term 'environment' ?
12. Name any 2 non-biodegradable substances?
13. Name any 2 biodegradable substances?
14. Name 2 constituents of biotic environment?
15. Name 1 constituent each of biotic and abiotic environment?
16. Which of the following is not a part of biotic community?  
(a) Algae (b) Mushroom (c) Moss (d) Water
17. Give the scientific term for organisms which feed directly on plants?
18. Name any 2 omnivores?
19. Give an example of 3 step food chain operating in grassland?
20. Write an aquatic food chain?

21. Give the technical term for the graphic representation of the trophic structure in a food chain?
22. Write a food chain in a forest ecosystem?
23. Rearrange the following according to their ascending trophic levels in a food chain?
24. Which of the following belongs to the same trophic level?  
 (a) Hawk (b) Deer (c) Grass (d) Rabbit (e) frog
25. In the following food chain, 4 J of energy is available to lion. How much energy was available at the producer level?  
 Plants  $\longrightarrow$  Deer  $\longrightarrow$  Lion
26. Define Bio-accumulation (Biomagnification) ?
27. Animals at which trophic level are expected to have the maximum concentration of harmful chemicals in their body?
28. The use of DDT is discouraged, since the chemical is found in human body. Name the process by which the chemical enters the human body?
29. Which of the following belonging to a food chain is likely to have maximum concentration of harmful chemicals in the body?  
 (a) Kingfisher, Zooplankton fish, Phytoplankton  
 (b) Peacock, Frog, Snake, Grasshopper  
 (c) Frog, Hawk, Grasshopper, Snake
30. Which layer of the atmosphere is mainly responsible for the absorption of ultraviolet radiations coming from the sun?
31. How does reproduction help in providing stability of populations of species?
32. Differentiate between self-pollination and cross-pollination
33. Name the 2 parts of a stamen? Where are pollen grains present?
34. Mention any 2 contraceptive methods used by women? Mention how each of them can be harmful?
35. Explain the terms Fission and Regeneration as used in relation to reproduction?

36. What is vegetative propagation? List any 2 methods of artificial vegetative propagation?  
Name the method used in propagating (i) rose and (ii) guava
37. Draw a diagram of the flower to show the male and female reproductive parts. Label on it (i) the ovary (ii) the anther (iii) the filament (iv) the stigma
38. Draw a labeled diagram of the L.S of carpel/pistil showing the growth of pollentube in it
39. What are male and female gonads in human beings? State any 2 functions of each of them?
40. Enumerate the steps in the production of new plants through tissue culture . What is its significance?
41. Differentiate between inherited and acquired characters/traits?
42. What are homologous organs? Give an example
43. Who postulated the theory of natural selection? Why was this theory criticized?
44. Differentiate between natural selection and artificial selection?
45. Explain the mechanism of sex determination in the zygote?
46. Explain the importance of fossils in deciding the evolutionary relationships?
47. What are decomposers? State their importance in the biotic environment?
48. Explain the role of decomposers in biotic environment ?
49. Explain how will it affect the environment , if all the decomposers are removed from the ecosystem?
50. Write the food chain operating in a fresh water pond. Mention the food habit of each trophic level in the food chain?
51. Mention the difference between the food habits of organisms belonging to the first and the third trophic levels. Give 1 example of each of them?
52. Which food chain are advantageous in terms of energy? Support your answer giving 1 example.
53. Given below is a food chain

Grasses  $\implies$  Grasshopper  $\implies$  Frog  $\implies$  Snake

What will happen to the members of different levels if all the frogs were removed?

54. Describe how ozone present in the atmosphere is important for sustaining life on earth?

55. What is a food chain? Write a food chain operating in a grass land? What would happen if all the grazers of grass disappear from the grassland?

56. Write two differences between a food chain and a food web? Draw a food web involving plants, grasshopper, rabbit, rat, hawk, snake & frog.



**Class – X**  
**BIOLOGY (HOLIDAY HOMEWORK)**

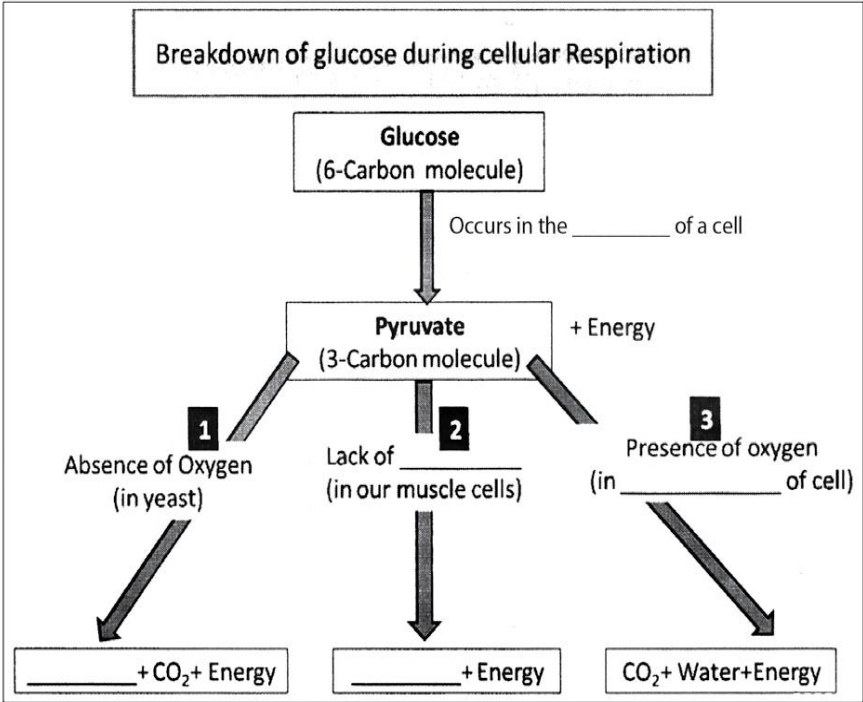
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I **Instructions:** Given below is a flow chart of breakdown of glucose by various pathways. Fill in the blank spaces in the flow chart and answer the questions given below the flow chart. (5x1/2=21/2)



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)
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**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.**

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**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.

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**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.

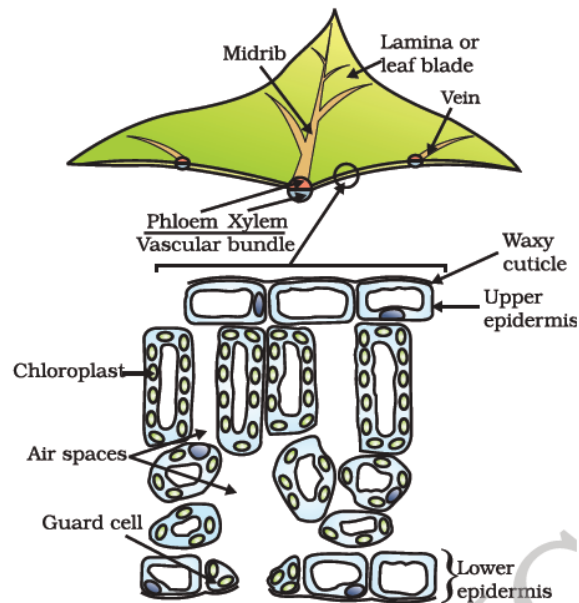
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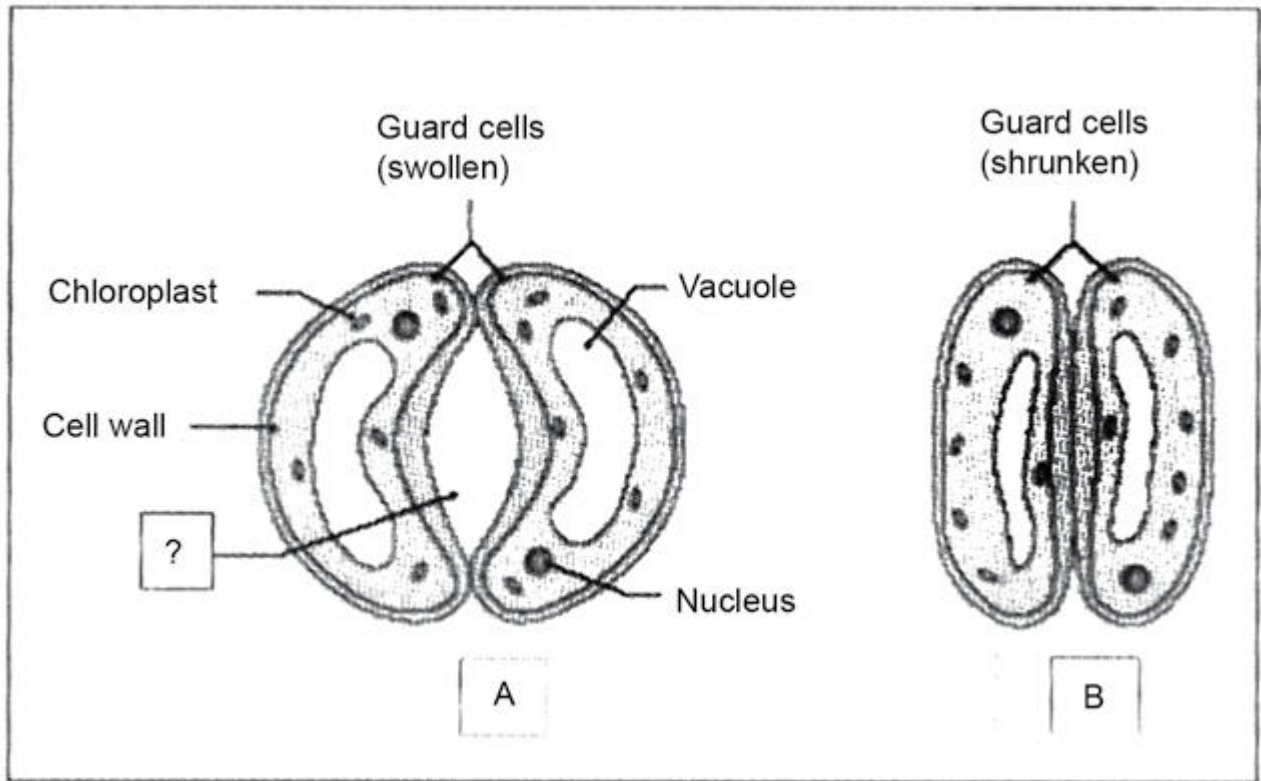
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**IV. Instructions :** Observe the diagram of stomata given below and answer the questions that follow:



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?

## BIOLOGY

### STD. X SA1

#### SECTION A ONE MARK QUESTIONS

1. Name the tissue which transports soluble products of photosynthesis in a plant.
2. Name the hormone that helps in regulating level of sugar in our blood. Name the gland that secretes.
3. Name the component of blood that helps in the formation of blood clot in the event of a cut.
4. Name the part of the brain which controls equilibrium and posture of the body?
5. Give one point which is common for both aerobic and anaerobic respiration.
6. Name the part of the human body in which the adrenal and pituitary glands are located.
7. What are the final products after digestion of carbohydrates and proteins?
8. How do we detect the smell of an agarbatti (incense sticks)
9. Name the process which helps in artificial removal of wastes from the body.
10. Name the neurous which carry impulses from receptors to brain.
11. How do autotrophs obtain Co<sub>2</sub> and N<sub>2</sub> to make their food.
12. Name the hormone synthesized at the shoot tips.

#### SECTION B TWO MARK QUESTIONS

1. What are plant hormones? Write two important functions of Auxins.
2. State two differences between Arteries and Veins.
3. "There is a need for a system of control and coordination in an organism". Justify the statement.
4. How would digestion of food be affected if the bileduct is completely blocked. Explain
5. Justify that the pancreas and the gonads perform dual function.
6. Bile juice does not contain any digestive enzymes, yet it is essential for digestion. Why so? Explain.
7. Why are white blood corpuscles called 'soldiers of the body.
8. What are the cranial nerves? How many cranial nerves does a human being have?
9. Why does the left ventricle possess a thicker wall that the right ventricle.
10. What is the difference between a reflex action and walking?

#### SECTION C THREE MARK QUESTIONS

1. What causes a tendril to encircle or coil around the object in contact with it. Explain the process involved.
2. What is double circulation in human beings? Why is it necessary?
3. What is a reflex action? Describe the steps involved in a reflex action.
4. Describe in brief the function of kidneys, Ureters and Urinary bladder.
5. What are voluntary and involuntary actions? Give one example each.
6. What are stomata? Draw a labeled diagram of stomata. Write two functions of stomata.
7. Name the source and one main function of the following
  - a) Insulin
  - b) Testosterone
  - c) oestrogen
8. Write any three differences between aerobic and anaerobic respiration.
9. What are Villi? Where are they present? What is their function?
10. What is a reflex arc? Draw a neat labeled diagram of the component in a reflex arc.

#### SECTION D

1. Draw a sectional view of the human heart and label on it:
  - a) Aorta, Right Ventricle and Pulmonary veins
  - b) State the functions of the following components of transport system a) Blood b) lymph
2. What is (i) Phototropism (ii) Geotropism
  - b) Mention the role of each of the following plant hormones.
    - (i) Auxin
    - (ii) Abscisic acid
3. What is endocrine system? What are its functions? Name the important endocrine glands present in a human body.
4. a) List the three events that occur during the process of photosynthesis. Explain the role of stomata in this process.
5. Describe an experiment to show that "Sunlight is essential for photosynthesis".
6. Name the blood vessel that brings oxygenated blood to the human heart.  
Which chamber of human heart receives oxygenated blood?  
Explain how oxygenated blood from this chamber is sent to all parts of the body.

## CLASS X ( BIOLOGY )

1. What is the fate of glucose in an animal's body?
2. What is the role of sphincter muscle at the end of stomach?
3. Explain double circulation in human beings.
4. How is the amount of urine produced regulated?
5. Define reflex action and give some examples.
6. Mention briefly functions of different parts of brain?
7. Explain the process of phototropism.
8. Which of the hormone will be secreted in the body if you are caught stealing?
9. Draw well developed diagram of reflex arc.
10. Draw diagram of human respiratory system and label pancreas , liver and salivary glands in it.
11. Draw human digestive system and label alveoli, diaphragm and bronchi in it.
12. Draw human excretory system and label left renal vein, urethra and right kidney in it.