



# PRACTICAL QUESTIONS

## Multiple Choice Questions

1. Why do we place leaf peel in glycerine?

- (a) Glycerine opens up the stomata
- (b) To wash the peel
- (c) Peel remains green when placed in glycerine
- (d) Peel does not get dry

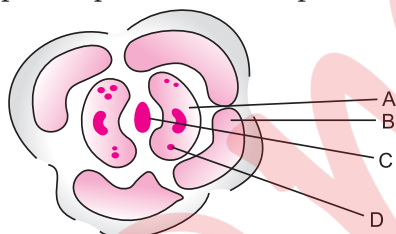
**Ans. (d) :** It is very difficult to observe cells in dry leaves, therefore leaf peel is placed in glycerine.

2. While preparing a temporary stained mount of a leaf, the excess of stain is removed by

- (a) washing with  $\text{CaCl}_2$  solution
- (b) absorbing with cotton wool
- (c) washing with water
- (d) soaking with filter paper.

**Ans. (d) :** The excess of stain is removed by soaking with filter paper as filter paper soaks extra stain leaving no marks on slide.

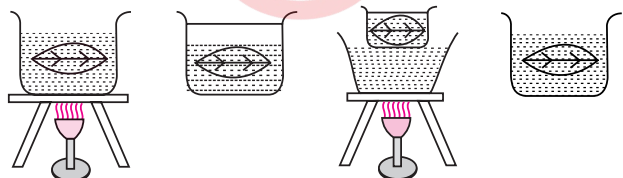
3. In the given diagram of the stomata, which labelled part represents chloroplast?



- (a) A
- (b) B
- (c) C
- (d) D

**Ans. (d)**

4. A student performed the starch test on a leaf. Some steps involved are shown below :



- (i) Leaf in boiling water
- (ii) Leaf in iodine solution
- (iii) Leaf in ethanol heated in a water bath
- (iv) Leaf in water at room temperature

What is the correct sequence of steps?

- (a) (iv), (iii), (ii), (i)
- (b) (i), (ii), (iii), (iv)
- (c) (ii), (iii), (iv), (i)
- (d) (i), (iii), (iv), (ii)

**Ans. (d)**

5. A part of destarched leaf of a potted plant was covered with black paper strips on both sides and the plant was kept in sunlight for 8 hours. The leaf was then tested with iodine after boiling it in alcohol. Only the uncovered part of the leaf turned blue black. What is your inference for this?

- (a)  $\text{CO}_2$  is necessary for photosynthesis.
- (b) Light is necessary for photosynthesis.
- (c) Chlorophyll is necessary for photosynthesis.
- (d) Water is necessary for photosynthesis.

**Ans. (b) :** This experiment demonstrates that light is necessary for photosynthesis as under light only, photosynthesis occurs leading to formation of starch. Starch gives blue-black colour with iodine.

6. In the experiment “to demonstrate that  $\text{CO}_2$  is given out during respiration”, what will you observe in the delivery tube dipped in water?

- (a) Water level rises in the delivery tube.
- (b) Water turns milky and rises in the delivery tube.
- (c) Water turns milky but does not rise in the delivery tube.
- (d) Water level in the delivery tube remains unchanged.

**Ans. (a)**

7. In the experiment demonstrating respiration in germinating seeds, KOH is used to

- (a) absorb  $\text{CO}_2$  produced by the seeds
- (b) absorb  $\text{O}_2$  present in the flask
- (c) absorb water vapour released by the seeds
- (d) liberate  $\text{O}_2$  to be used by the seeds.

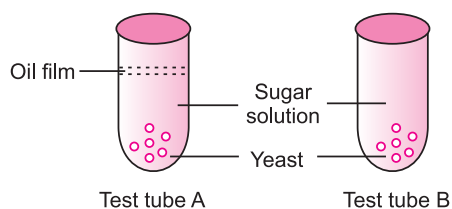
**Ans. (a) :** KOH absorbs  $\text{CO}_2$  given out by germinating seeds.

8. After boiling the leaves in alcohol and washing with water, which solution is added to water?

- (a) Starch solution
- (b) Saline solution
- (c) Sugar solution
- (d) Iodine solution

**Ans. (d)**

9. In the test tubes A and B shown below, yeast was kept in sugar solution. Which products of respiration would you expect in tubes A and B?

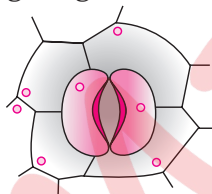
**Test tube A**

- (a) Lactic acid and  $\text{CO}_2$   
 (b)  $\text{CO}_2 + \text{H}_2\text{O}$   
 (c) Ethyl alcohol and  $\text{CO}_2$   
 (d)  $\text{CO}_2 + \text{H}_2\text{O}$

**Ans. (c) :** Test tube A has a oil cover/film on the sugar solution due to this it does not have access to oxygen. So, anaerobic respiration will take place and the respiratory products will be ethyl alcohol and  $\text{CO}_2$ . But, test tube B contained sugar solution and yeast and no oil film is present so here aerobic respiration will take place and the products would be  $\text{CO}_2$  and water.

**10.** Mohit prepared temporary mount of a leaf peel and drew the following diagram. The missing part in the diagram is

- (a) epidermal cells  
 (b) guard cells  
 (c) nucleus  
 (d) chloroplasts.



**Ans. (d)**

**Subjective Questions**

**11.** Rahul conducted an experiment by adding saliva to the test tube containing pieces of bread. What will be the result?

**Ans.** Salivary amylase (ptyalin) enzyme present in saliva will breakdown carbohydrate present in bread into simple sugars.

**12.** Why do fishes die when taken out of water?

**Ans.** When fishes are taken out of water, they die after some time because aquatic animals are specialised to take oxygen dissolved in water with the help of their gills. They are unable to take oxygen from air.

**13.** Why the colour of urine is yellow?

**Ans.** Urine is yellow in colour because of the presence of urochrome.

**14.** Why is it advised not to speak while eating?

**Ans.** It is advised not to speak while eating because it increases the chances of entering the food into wind pipe (trachea) instead of food pipe.

**15.** What is the purpose of boiling a leaf in alcohol prior to starch test?

**Ans.** The green leaf is boiled in alcohol to extract chlorophyll from it. The leaf then becomes almost colourless or pale. The decolourised leaf is used for iodine test and to observe changes in it.

**16.** Sahil potted two plants as pot A and pot B. He covered pot A with black paper and pot B with transparent paper. After a week he observed some differences in both the plants. What do you think he had observed?

**Ans.** He observed that plant in pot A died while plant in pot B is still alive. This is due to absence of processes like photosynthesis, transpiration and respiration which does not take place in pot A because it was covered with black paper. Hence, plant in pot A died.

**17.** Rahul went for blood test in a lab. After blood test he was afraid that he will die due to all blood loss from the site where blood is taken out. But this was not happened and very soon he observed a blood clot at that point. What kind of cells are responsible for this blood clotting?

**Ans.** Platelets (thrombocytes) play a major role in blood clotting.

**18.** During respiration in an organism A, 1 molecule of glucose produces 2 ATP whereas in organism B, 1 molecule of glucose produces 38 ATP. What kind of respiration is going on in A and B?

**Ans.** In organism A, anaerobic respiration is going on whereas in organism B, aerobic respiration takes place which leads to complete oxidation of glucose molecule.

**19.** Why glottis is guarded by epiglottis?

**Ans.** Glottis is guarded by epiglottis because it prevents the entry of food into trachea.

**20.** Anita kept the plant in dark for sometime and then she conducted an experiment to observe the stomata using leaf from this plant.

(i) What do you think she has observed about the opening or closing of stomata?

(ii) She has observed more number of stomata on lower surface of a leaf. Justify.

**Ans. (i)** As the plant kept in dark, she must have observed the closed stomata.

(ii) Stomata helps in gaseous exchange and transpiration. The sides of a leaf least exposed to sun rays, *i.e.*, lower surface of leaf has more number of stomata so that plant can exchange maximum oxygen with minimal water loss.

