

Practical No. 12

Aim : To show that carbondioxide is evolved in the process of respiration.

Apparatus : 25-30 seeds of lentils like mung, mufki, water, cotton, conical flask, bent tube, rubber cork, etc.

Chemicals : Potassium hydroxide pallets.

Procedure :

1. Soak the given seeds in water overnight. Then keep them in wet cotton for some hours, so that they will sprout.
2. Take these wet sprout in a conical flask; so that their respiration will be continued.
3. Insert a test tube containing KOH pallets, in the conical flask.
4. Tightly fit a rubber cork with bent tube and make the flask air tight.
5. Insert the other end of bent tube in a beaker containing coloured water. Mark the level of coloured water in the bent tube.
6. Keep this set steady for 15 minutes and again marks the water level in the bent tube.
7. Note your observations.

Observation : Carbon dioxide evolved in respiration is absorbed by lentils, therefore water level in bent tube rises.

Inference / Conclusion : CO₂..... gas is evolved during respiration in plant.

Plant used CO₂ for photosynthesis so, the CO₂ gas is evolved during respiration in plants

Multiple Choice Questions

1. For experiment showing that CO₂ is evolved during respiration process in plants - arrange following steps in proper order.

- i) Soak gram seeds in water, overnight. Keep them in conical flask.
- ii) Close the conical flask with cork fitted with 'U' tube.
- iii) Insert test tube with KOH solution in the conical flask.
- iv) Keep the set steady for some time.

a. i,ii,iii,iv b. i,ii,iv,iii ☒ c. i,iii,ii,iv d. i,iii,iv,ii

2. Decomposition is a type of

- ☒ a. aerobic respiration b. anaerobic respiration
c. exothermic reaction d. non of these.

3. Mohan prepared lime water and next month used it for the experiment showing CO_2 is evolved in the process of respiration.
- White precipitate is formed.
 - White precipitate is not formed.
 - Lime water must be fresh.
 - Lime water can be used anytime.
- a. (ii) is correct. ☒ b. (ii) and (iii) are correct.
- c. (i) and (iv) are correct. ☒ d. (ii) and (iv) are correct.
4. Before arranging the experiment "Carbon dioxide evolved during the process of respiration", the seeds must be
- completely dried.
 - boiled to soften them.
 - soaked in vinegar.
 - ☒ kept moist till germination.
5. The seeds respire at the time of germination. While showing this experiment a test tube with KOH is kept in the conical flask to
- ☒ supply oxygen necessary for respiration.
 - create space in the conical flask by absorbing CO_2 .
 - absorb water from the seeds and dry them.
 - make the air in the conical flask, acidic.

: Exercise :

1. How do the process of respiration occur in living organisms?

All living organism must be capable of releasing energy stored in food molecules through the lungs and abdomen.

2. Why do we tired on quick exercise?

When we exercise of our body starts to anaerobic respiration and lactic acid is formed. So, we tired on quick exercise.

3. Which type of respiration involves the process of fermentation?

When the process of fermentation involves then the aerobic respiration involves the process of fermentation.

Remark and Sign

