BIOLOGY

BOOKS - ICSE

RESPIRATION IN PLANTS

1 Mark Questions

1. The product of photosynthesis is :

A. Protein

B. Glucose

C. Fatty acid

D. Glycerol

Answer: B

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2. Glycolysis is a process

A. In which glucose is broken down into pyruvate.

B. in which glycogen is broken down into glucose.

C. which occurs in mitochondria.

D. that occurs next to Kreb.s cycle.

Answer: A

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3. General equation for aerobic respiration is

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4. Mention the exact location of the Stomata

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5. Name any two organisms which respire only anaerobically throughout their lives.

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6. Write a balanced equation to represent anaerobic respiration in plants.

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7. Give appropriate biological term for: A phase of aerobic respiration which does not need oxygen.

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8. Glucose is incompletely broken down to (A) ..... alcohol in plants during (B)..... respiration.

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2 Mark Questions

1. Differentiate between the following pairs on the basis of what is given in the brackets:

Glycolysis and Kreb.s cycle (Amount of energy released)

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2. Differentiate between the following pairs on the basis of the aspect given in the brackets.

Respiration and photosynthesis (gas released).

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3. Write the full form of ATP and ADP.

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4. Fill in the blanks with suitable words.

..... $\xrightarrow{\text{Kreb.s cycle}}$ ..... + ...

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5. Fill in the blanks with suitable words.

..... $\xrightarrow{\text{Glycolysis}}$ .....

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6. Explain why it is usually difficult to demonstrate respiration in green plant?

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7. Name the following chemicals:

Used to create vacuum to show anaerobic respiration.

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8. Name the following chemicals:

Used for absorbing oxygen from the air.

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3 Mark Questions

1. Give appropriate biological / technical terms for the following:

Oxidative breakdown of carbohydrate to release energy.

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2. Give appropriate biological / technical terms for the following:

Energy currency of cell.

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3. Give appropriate biological / technical terms for the following:

A common phase in both aerobic and anaerobic respiration.

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4. How can plant inhale oxygen?

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5. The following two chemical reactions are supposed to indicate a certain process occurring in the green plant under two different conditions:

A. $C_6H_{12}O_6 + 6O_2 \rightarrow 6CO_2$ + ... + 38 ATP

B. $C_6H_{12}O_6 \rightarrow$ ..... + $2CO_2$ + 2ATP

(i) Fill in the blanks of each reaction.

(ii) Name the process represented by the two chemical equations.

(iii) What are the conditions under which the two reactions A and B are occurring?

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6. Respiration is said to be the reverse of photosynthesis. Explain

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7. Name the following :

The opening found on older stems.

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8. Name the following :

Part of the cell where glycolysis occurs

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9. Name the following :

A respiratory substance

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5 Mark Questions

1. Complete the following paragraph by filling in the blanks (i) to (x) with appropriate words: Respiration is a (i) ..... process of releasing energy from simple sugar for carrying out life

processes.

Glycolysis takes place in (ii) ..... and Krebs cycle takes place in (iii) . ..... Aerobic respiration proceeds in the presence of (iv)..... During this process, a total of (v) ..... molecule (s) of ATP is liberated from one mole of glucose. In animals, (vi) ..... is formed during anaerobic respiration. In yeast, (vii) ..... is broken down into (viii) ..... at the time of fermentation. Respiration is completely (ix) ..... to photosynthesis. Respiration occurs in all living cells but

photosynthesis is only carried out in the cells containing (x).....

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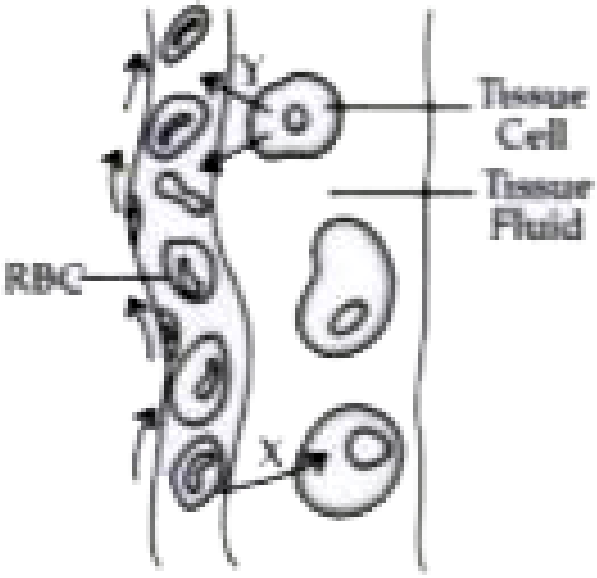
2. Given below is a diagram depicting a physiological process in man.

Study the same and answer the following questions :



Name the process occurring in the diagram.

Explain the process mentioned in part (i).

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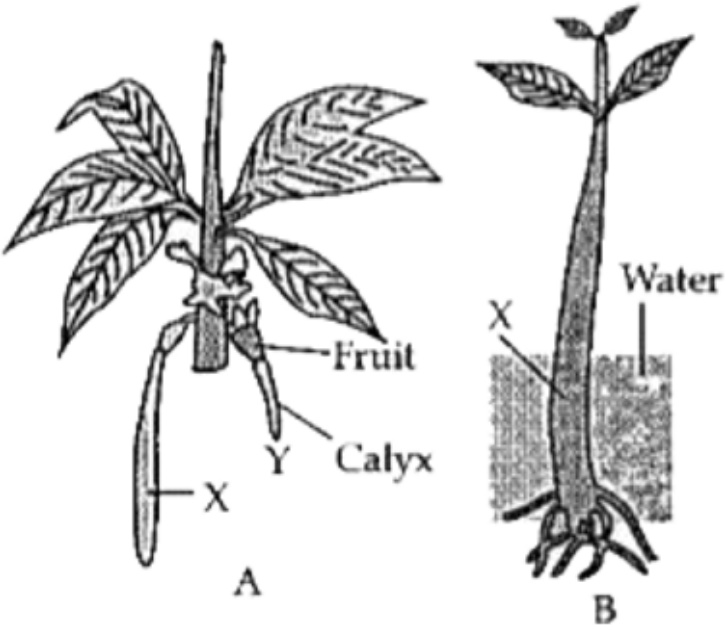
3. Given below is a diagram depicting a physiological process in plants. Study the

same and answer the following questions:



Label the part .X. and .Y..

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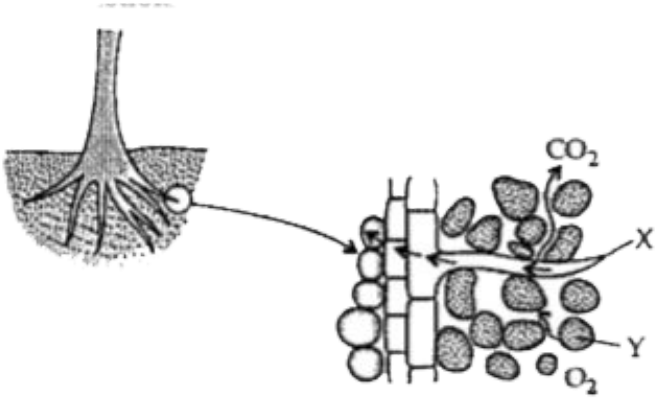
4. Given below is a diagram depicting a physiological process in plants. Study the same and answer the following questions :



Define the part X.

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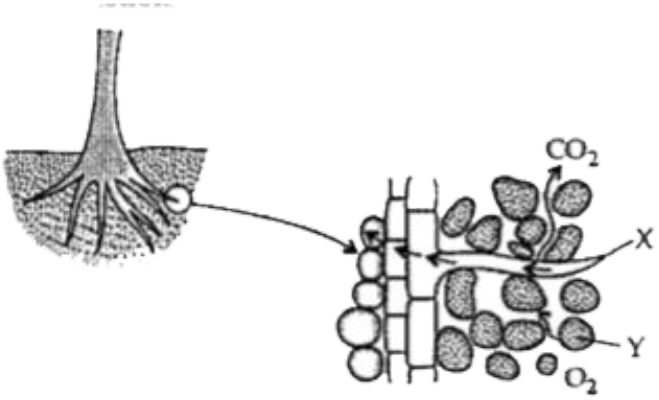
5. Given below is a diagram depicting a physiological process in plants. Study the same and answer the following questions :



Define the part X.

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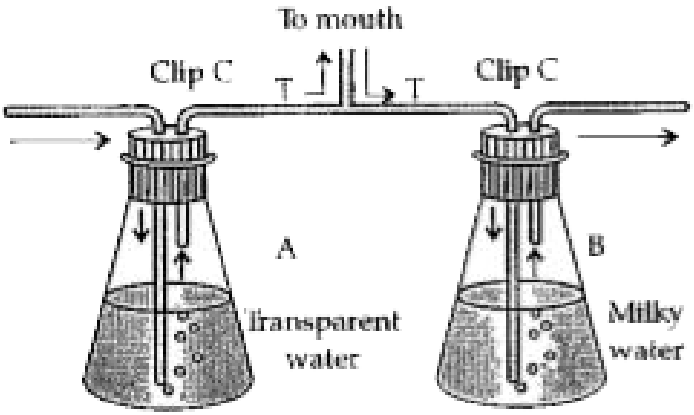
6. Study the experimental set-up given below and answer the following questions:



What is the aim of the experiment shown above ?

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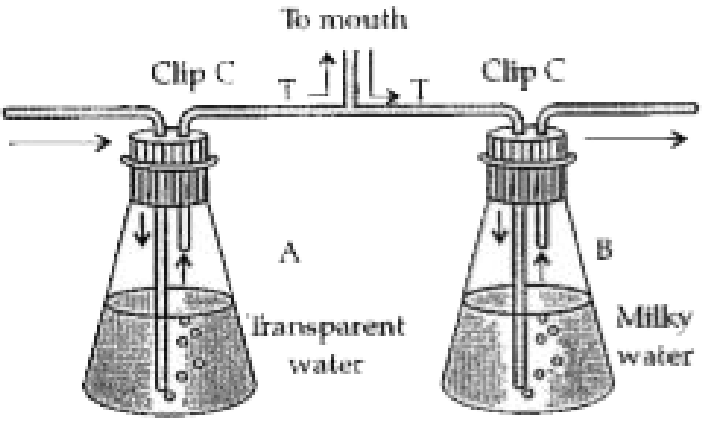
7. Study the experimental set-up given below and answer the following questions:



What is your observation for flasks .A. and .B.?

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8. Study the experimental set given below and answer the following questions:

Name the chemical used to prevent bacterial growth. Explain how the bacteria would interfere with the experiment

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9. Study the experimental set given below and answer the following questions:

Why do we use thermos flasks specifically for the experiment?

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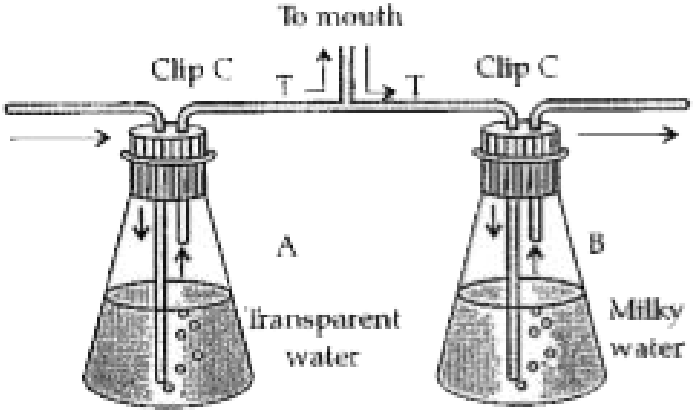
10. Study the experimental set-up given below and answer the following questions:



Which is the control set-up and why?

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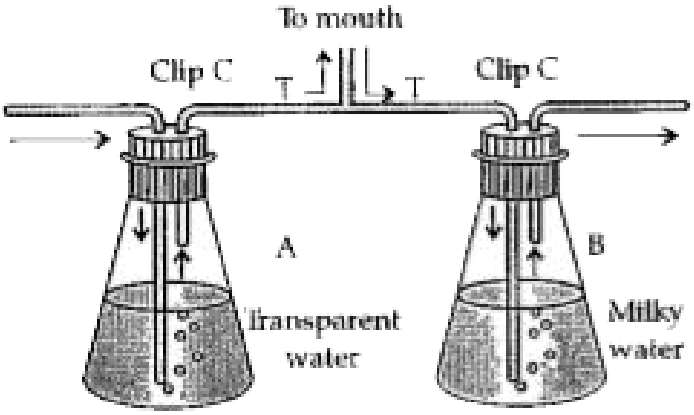
11. Study the experimental set-up given below and answer the following questions:



What is the aim of the experiment shown above ?

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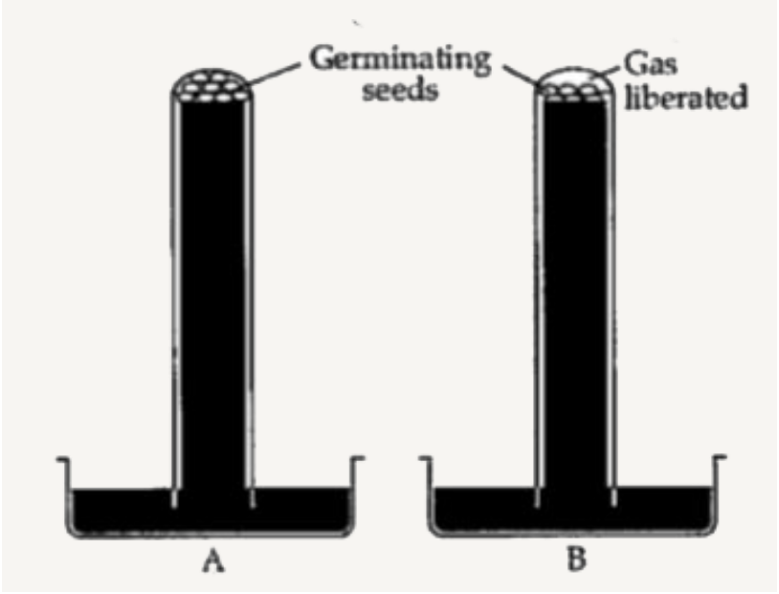
12. Study the experimental set given below and answer the following questions :



What is your observation after a few days for test tubes .A. and .B.?

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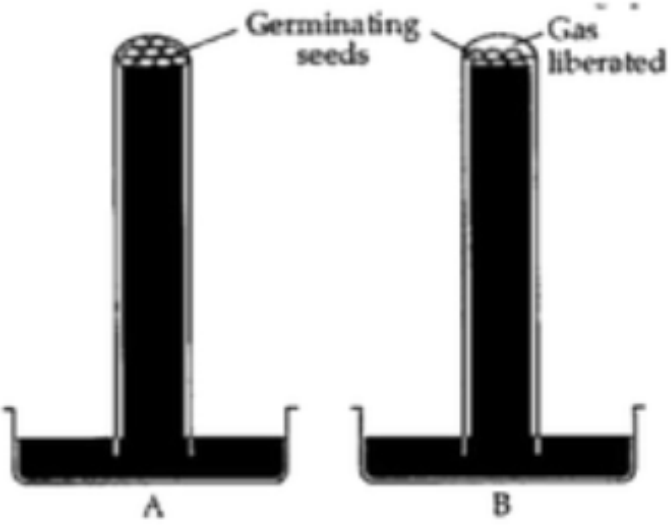
13. Study the experimental set given below and answer the following questions :



Name the chemical filled in the test tubes. Explain how the above mentioned chemical would interfere with the experiment.

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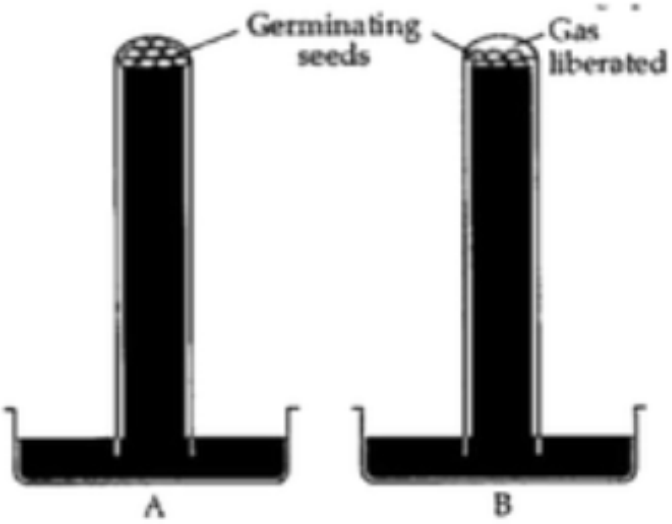
14. Study the experimental set given below and answer the following questions :



Which gas is liberated in this experiment?

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15. Study the experimental set given below and answer the following questions :

Which is the control set-up and why?

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16. Study the experimental set given below and answer the following questions :

What is the aim of the experiment shown above?

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17. Study the experimental set given below and answer the following questions :

What is your observation after a few days for flasks .A. and .B.?

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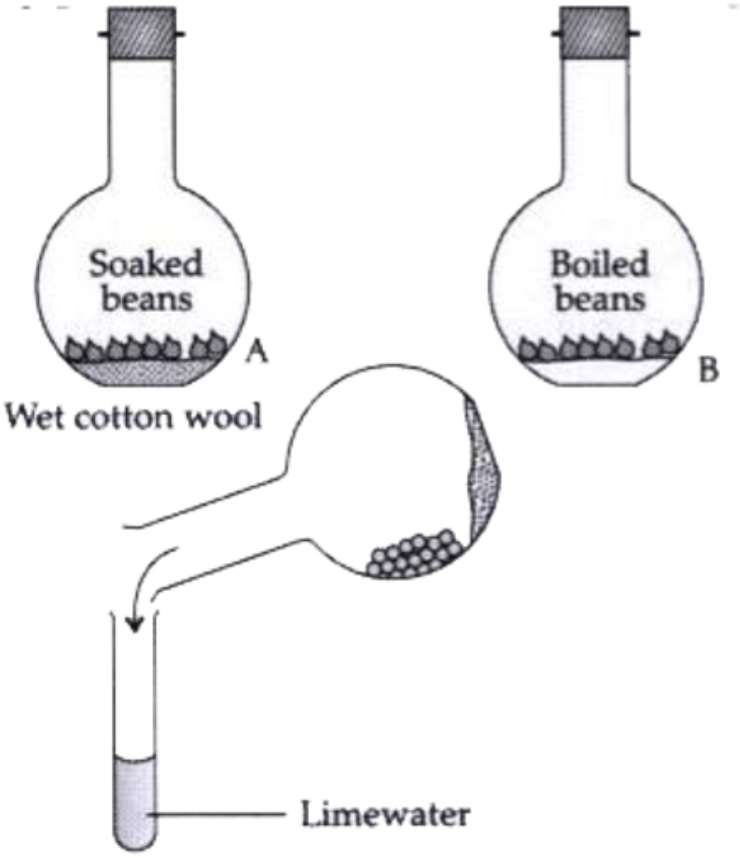
18. Study the experimental set given below and answer the following questions :



Name the chemical used to prevent bacterial growth.

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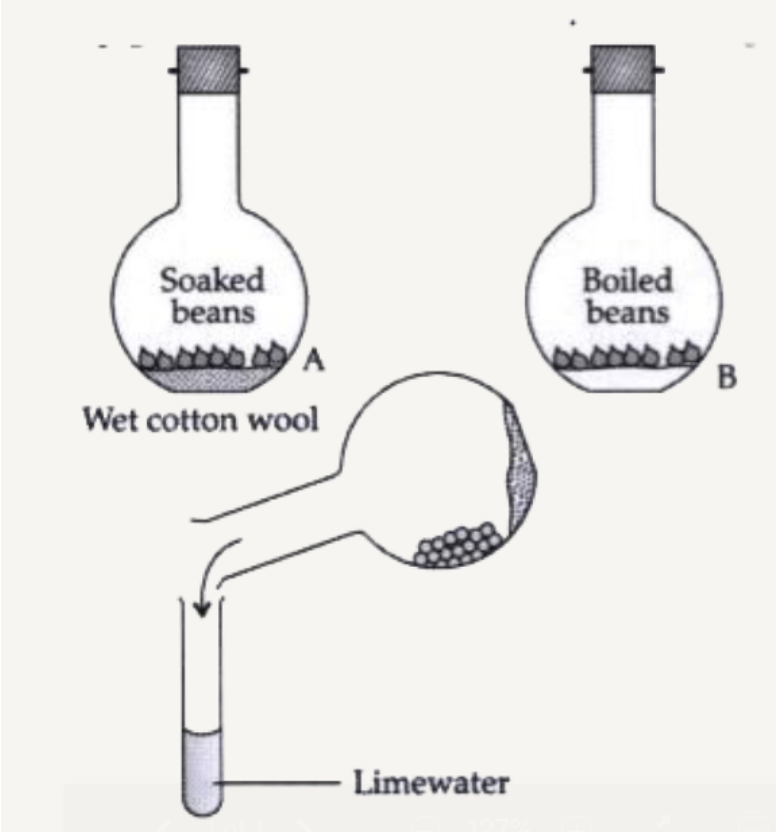
19. Study the experimental set given below and answer the following questions :



Which gas is observed in flask .A. in this experiment?

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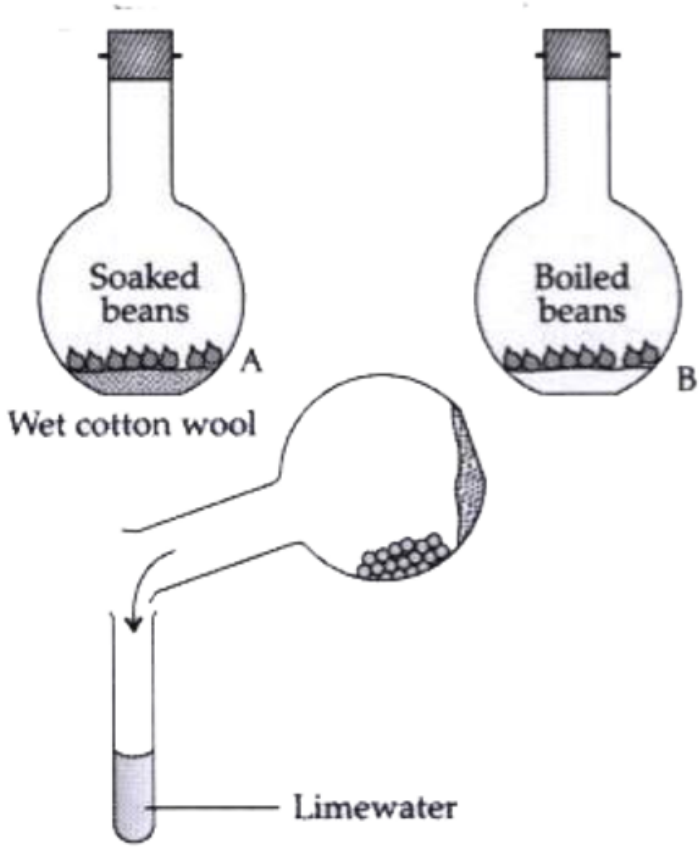
20. Study the experimental set given below and answer the following questions :



Which is the control set-up and why?

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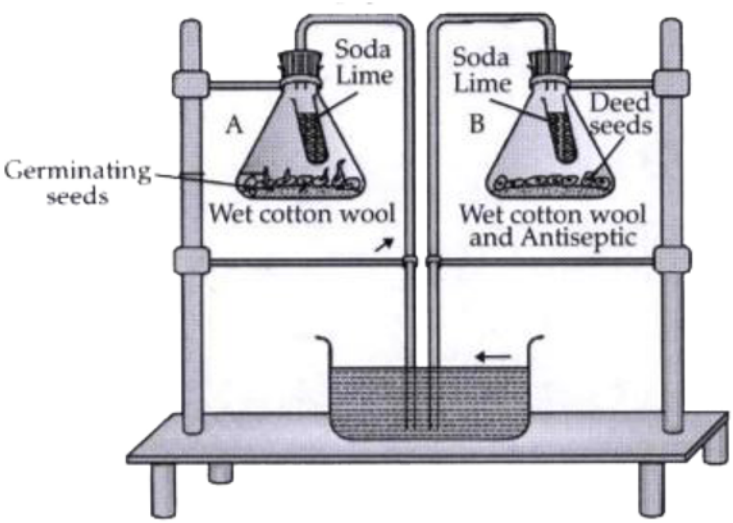
21. Study the experimental set given below and answer the following questions :



What is the aim of the experiment shown above?

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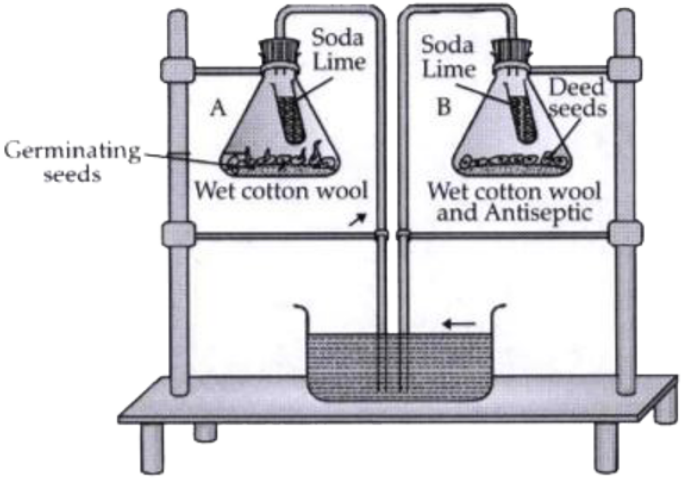
22. Study the experimental set given below and answer the following questions :



What is your observation after a few days for flasks .A. and .B.?

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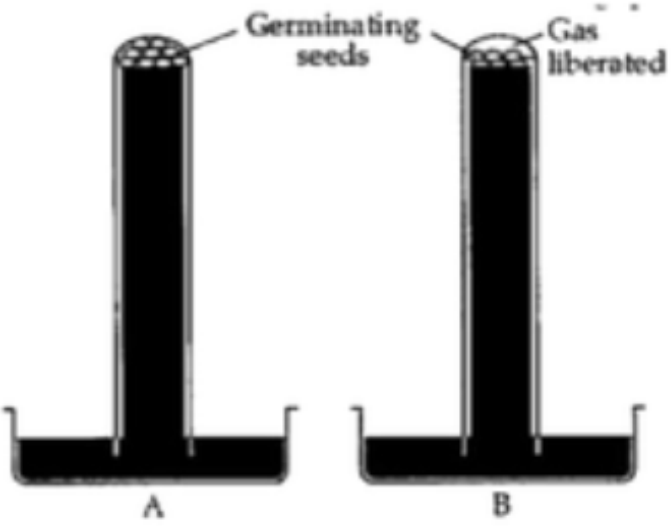
23. Study the experimental set given below and answer the following questions :



Name the chemical filled in the test tubes. Explain how the above mentioned chemical would interfere with the experiment.

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24. Study the experimental set given below and answer the following questions :

Why there is slight increase in the level of water in the delivery tube of flask'B?

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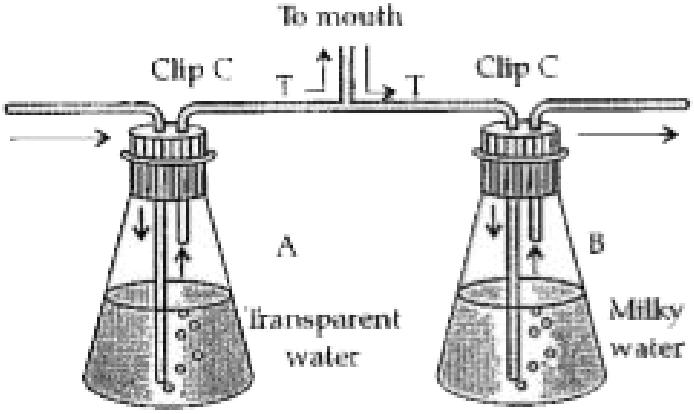
25. Study the experimental set-up given below and answer the following questions:



Which is the control set-up and why?

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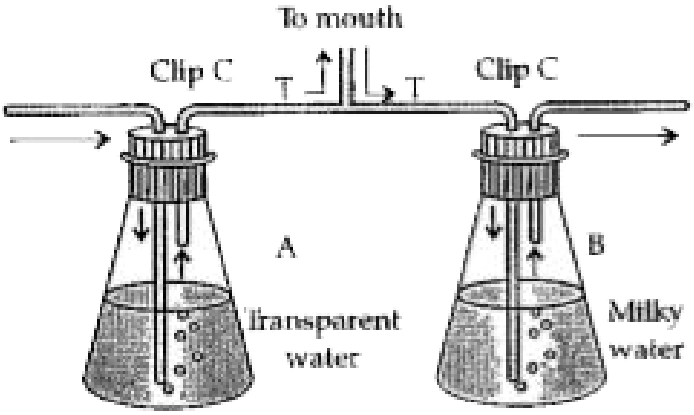
26. Study the experimental set-up given below and answer the following questions:



What is the aim of the experiment shown above ?

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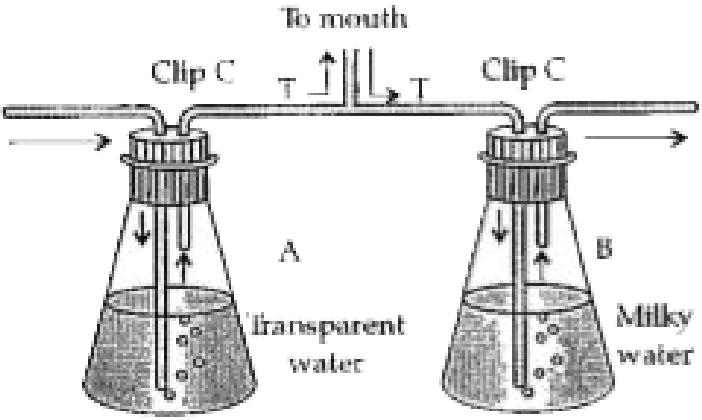
27. Study the experimental set-up given below and answer the following questions:



What is your observation for flasks .A. and .B.?

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28. Study the experimental set given below and answer the following questions :

How do you confirm that there is no carbon dioxide in flask.C.?

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29. Study the experimental set given below and answer the following questions :

Why does the lime water turn milky in flask .D.

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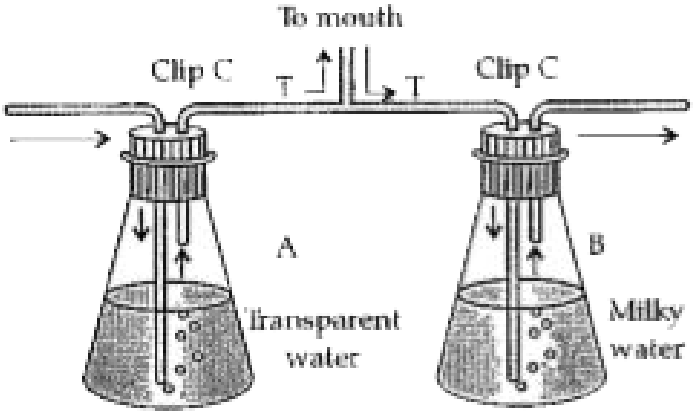
30. Study the experimental set-up given below and answer the following questions:



Which is the control set-up and why?

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31. Study the experimental set given below and answer the following questions :

What is the purpose of keeping potassium hydroxide solution in the test tubes X and Y?

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32. Study the experimental set given below and answer the following questions :

Why is the coloured water risen in Tubing 1?

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33. Study the experimental set given below and answer the following questions :

What is the purpose of keeping boiled peas soaked in a disinfectant in test tube Y?

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34. Study the experimental set given below and answer the following questions :

Name the biological process shown in the experiment.

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35. Study the experimental set given below and answer the following questions :

Define the biological process shown in the experiment.

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36. How are aerobic and anaerobic respirations different in plants.

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