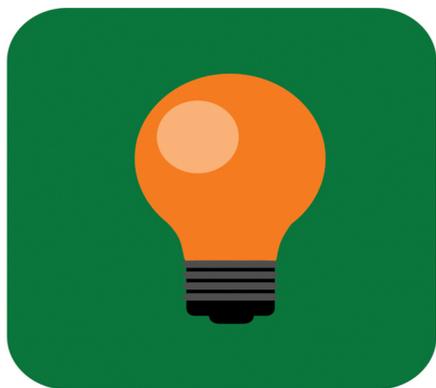
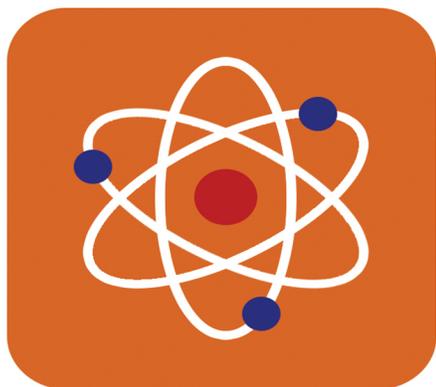


OSWAAL CBSE CCE Laboratory Manual SCIENCE



Class 10 Term 2

Highlights

1. Strictly as per latest CBSE guidelines.
2. Includes all Activities / Experiments specified in latest CBSE Curriculum.
3. Includes questions from all sets of Term 1 March 2010 to March 2015 Board Examinations with detailed answers.
4. Practical Based Questions include – MCQs and Short Answer Types.
5. Extra Practice Questions given after each activity as 'Viva Voce'.
6. Group Activities & Projects to facilitate collective efforts and extension of learning to real life situations.
7. Brief description of each Activity / Experiment given as 'Theoretical Concepts'.

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in
SCIENCE
For Term 2

Class
10

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Activities

LIST OF EXPERIMENTS

SECOND TERM

Practicals should be conducted alongside the concepts taught in theory classes.

Sr. No.	Experiment	Date	Page	Remarks
1.	To study the following properties of acetic acid (ethanoic acid): (i) odour (ii) solubility in water (iii) effect on litmus (iv) reaction with sodium bicarbonate			
2.	To study saponification reaction for preparation of soap.			
3.	To study the comparative cleaning capacity of a sample of soap in soft and hard water.			
4.	To determine the focal length of: (i) Concave mirror (ii) Convex lens by obtaining the image of a distant object.			
5.	To trace the path of a ray of light passing through a rectangular glass slab for different angles of incidence. Measure the angle of incidence, angle of refraction, angle of emergence and interpret the result.			
6.	To study (a) binary fission in Amoeba, and (b) budding in yeast with the help of prepared slides.			
7.	To trace the path of the rays of light through a glass prism.			
8.	To find the image distance for varying object distances in case of a convex lens and draw corresponding ray diagrams to show the nature of image formed.			
9.	To study homology and analogy with the help of models/charts of animals and models/charts/ specimens of plants.			
10.	To identify the different parts of an embryo of a dicot seed (Pea, gram or red kidney bean).			

PREFACE

CBSE always believe in Global Trends of Educational Transformation. The CBSE curriculum gets its lead from National Curriculum Framework – 2005 and Right to Free and Compulsory Education Act – 2009. As said by John Holt “We learn to do something by doing it. There is no other way” is very true and this is the reason why CBSE has Science Practical's as a part of curriculum of class IX and X. So that students can perform what they learn in theory subject.

The Science Lab Manual for Classes IX & X has been written so as to supplement the need of the students to prepare for lab work and learn science practical during the entire year.

This Lab Manual includes all activities and experiments as specified in latest CBSE curriculum. It also includes questions from all sets of Term 2 March 2010 to March 2015 Board Examinations with detailed answers. Practical based questions have also been included in the form of Multiple Choice Questions (MCQs) and Short Answer Type Questions. At the end of every activity Viva Voce questions have been given for extra practice. Group Activities provide will help students to learn team work. Projects have been added to facilitate collective efforts and extension of learning to real life. Each activity/experiment comprises of theoretical concepts which provides brief description about activities.

This book is strictly according to the latest CBSE guidelines, and contains more than sufficient viva voce questions and brief description of each activity/experiment, which help students in practicing and completing the lab work. All activities and experiments are always checked twice and tried to make precise. Practically, this book provides students everything they need to learn during their lab work. Since we believe in continuous improvement, hence this book has been written with accuracy as well as updated as per CBSE guidelines and reviewed at different tiers by panel of experts.

We are sure that this book will serve as a perfect teaching guide for the teachers and good lab manual for the students. It is expected that they will take full advantage of our knowledge and experience.

At last we would like to thank our authors, editors, reviewers and specially students who regularly send us suggestions which helps in continuous improvement of this book and makes this book stand in the category of “One of the Best”. Wish you all Happy Learning.

-Publisher

Chapter 1

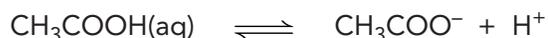
CARBON AND ITS COMPOUNDS

EXPERIMENT NO. 1

CONCEPTS

Ethanoic Acid

- The formula of acetic acid is CH_3COOH . Its IUPAC name is **ethanoic acid**.
- Pure glacial acetic acid freezes at 16.6°C .
- Acetic acid has vinegar like smell.
- Acidic property of CH_3COOH is due to the presence of carboxylic group ($-\text{COOH}$).
 - Acetic acid is highly soluble in water.
 - Acetic acid is a weak acid and it ionizes only partially.



- Acetic acid turns blue litmus red but it does not affect red litmus.
- Acetic acid produces effervescence with sodium bicarbonate liberating carbon dioxide gas.

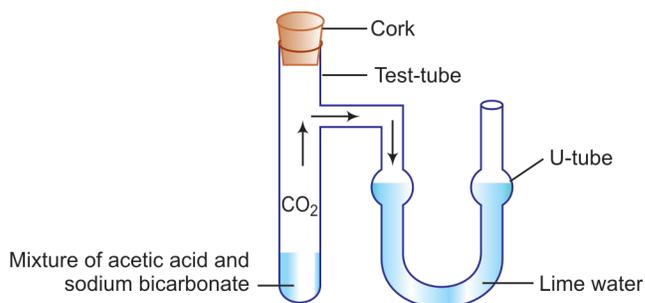
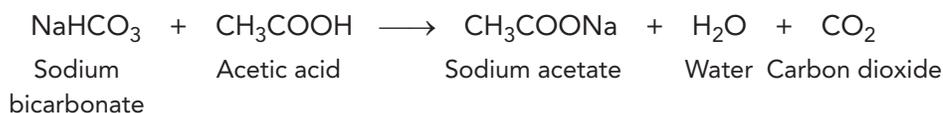
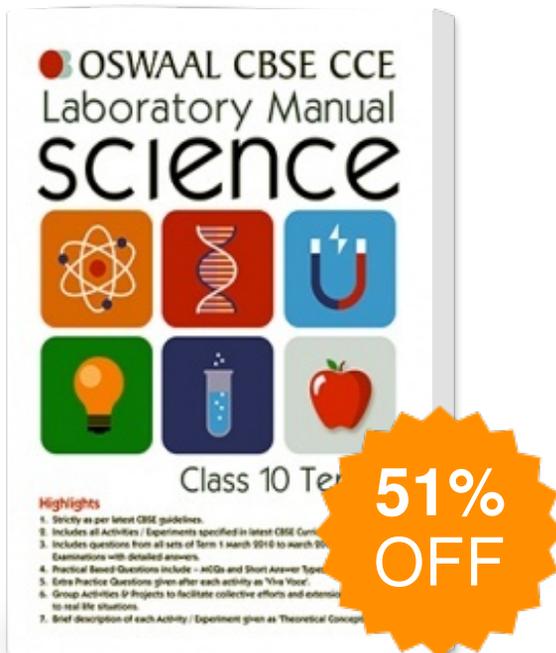


Fig. : Reaction between acetic acid and sodium bicarbonate gives CO_2 which turns lime water milky

- Carbon dioxide turns lime water milky due to the formation of insoluble calcium carbonate.



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