

# Chemistry

## Part II

*Textbook for Class XI*



राष्ट्रीय शैक्षिक अनुसंधान और प्रशिक्षण परिषद्  
NATIONAL COUNCIL OF EDUCATIONAL RESEARCH AND TRAINING

## FOREWORD

The National Curriculum Framework (NCF), 2005 recommends that children's life at school must be linked to their life outside the school. This principle marks a departure from the legacy of bookish learning which continues to shape our system and causes a gap between the school, home and community. The syllabi and textbooks developed on the basis of NCF signify an attempt to implement this basic idea. They also attempt to discourage rote learning and the maintenance of sharp boundaries between different subject areas. We hope these measures will take us significantly further in the direction of a child-centred system of education outlined in the National Policy on Education (1986).

The success of this effort depends on the steps that school principals and teachers will take to encourage children to reflect on their own learning and to pursue imaginative activities and questions. We must recognise that, given space, time and freedom, children generate new knowledge by engaging with the information passed on to them by adults. Treating the prescribed textbook as the sole basis of examination is one of the key reasons why other resources and sites of learning are ignored. Inculcating creativity and initiative is possible if we perceive and treat children as participants in learning, not as receivers of a fixed body of knowledge.

These aims imply considerable change in school routines and mode of functioning. Flexibility in the daily time-table is as necessary as rigour in implementing the annual calendar so that the required number of teaching days are actually devoted to teaching. The methods used for teaching and evaluation will also determine how effective this textbook proves for making children's life at school a happy experience, rather than a source of stress or boredom. Syllabus designers have tried to address the problem of curricular burden by restructuring and reorienting knowledge at different stages with greater consideration for child psychology and the time available for teaching. The textbook attempts to enhance this endeavour by giving higher priority and space to opportunities for contemplation and wondering, discussion in small groups, and activities requiring hands-on experience.

The National Council of Educational Research and Training (NCERT) appreciates the hard work done by the textbook development committee responsible for this book. We wish to thank the Chairperson of the advisory group in science and mathematics, Professor J.V. Narlikar and the Chief Advisor for this book, Professor B. L. Khandelwal for guiding the work of this committee. Several teachers contributed to the development of this textbook; we are grateful to their principals for making this possible. We are indebted to the institutions and organisations which have generously permitted us to draw upon their resources, material and personnel. We are especially grateful to the members of the National Monitoring Committee, appointed by the Department of Secondary and Higher Education, Ministry of Human Resource Development under the Chairpersonship of Professor Mrinal Miri and Professor G.P. Deshpande, for their valuable time and contribution. As an organisation committed to systemic reform and continuous improvement in the quality of its products, NCERT welcomes comments and suggestions which will enable us to undertake further revision and refinement.

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20 December 2005

*Director*  
National Council of Educational  
Research and Training

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V.P. Gupta, *Reader*, Regional Institute of Education, NCERT, Bhopal

### MEMBER-COORDINATOR

Alka Mehrotra, *Reader*, DESM, NCERT, New Delhi

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## CONTENTS OF CHEMISTRY PART I

<b>UNIT 1</b>	SOME BASIC CONCEPTS OF CHEMISTRY	1
<b>UNIT 2</b>	STRUCTURE OF ATOM	26
<b>UNIT 3</b>	CLASSIFICATION OF ELEMENTS AND PERIODICITY IN PROPERTIES	70
<b>UNIT 4</b>	CHEMICAL BONDING AND MOLECULAR STRUCTURE	96
<b>UNIT 5</b>	STATES OF MATTER	132
<b>UNIT 6</b>	THERMODYNAMICS	154
<b>UNIT 7</b>	EQUILIBRIUM	185
	APPENDICES	231
	ANSWERS	245
	INDEX	251

## CONTENTS

	<b>FOREWORD</b>	<b>iii</b>
<b>Unit 8</b>	<b>Redox Reactions</b>	<b>255</b>
8.1	Classical Idea of Redox Reactions-Oxidation and Reduction Reactions	255
8.2	Redox Reactions in Terms of Electron Transfer Reactions	257
8.3	Oxidation Number	259
8.4	Redox Reactions and Electrode Processes	269
<b>Unit 9</b>	<b>Hydrogen</b>	<b>276</b>
9.1	Position of Hydrogen in the Periodic Table	276
9.2	Dihydrogen, H <sub>2</sub>	277
9.3	Preparation of Dihydrogen, H <sub>2</sub>	278
9.4	Properties of Dihydrogen	278
9.5	Hydrides	280
9.6	Water	281
9.7	Hydrogen Peroxide (H <sub>2</sub> O <sub>2</sub> )	285
9.8	Heavy Water, D <sub>2</sub> O	286
9.9	Dihydrogen as a Fuel	286
<b>Unit 10</b>	<b>The s-Block Elements</b>	<b>291</b>
10.1	Group 1 Elements: Alkali Metals	292
10.2	General Characteristics of the Compounds of the Alkali Metals	295
10.3	Anomalous Properties of Lithium	296
10.4	Some Important Compounds of Sodium	296
10.5	Biological Importance of Sodium and Potassium	298
10.6	Group 2 Elements : Alkaline Earth Metals	298
10.7	General Characteristics of Compounds of the Alkaline Earth Metals	301
10.8	Anomalous Behaviour of Beryllium	302
10.9	Some Important Compounds of Calcium	302
10.10	Biological Importance of Magnesium and Calcium	304
<b>Unit 11</b>	<b>The p-Block Elements</b>	<b>307</b>
11.1	Group 13 Elements: The Boron Family	309
11.2	Important Trends and Anomalous Properties of Boron	312
11.3	Some Important Compounds of Boron	312
11.4	Uses of Boron and Aluminium and their Compounds	314

11.5	Group 14 Elements: The Carbon Family	314
11.6	Important Trends and Anomalous Behaviour of Carbon	317
11.7	Allotropes of Carbon	317
11.8	Some Important Compounds of Carbon and Silicon	319
<b>Unit 12</b>	<b>Organic Chemistry – Some Basic Principles and Techniques</b>	<b>326</b>
12.1	General Introduction	326
12.2	Tetravalence of Carbon: Shapes of Organic Compounds	327
12.3	Structural Representations of Organic Compounds	328
12.4	Classification of Organic Compounds	331
12.5	Nomenclature of Organic Compounds	332
12.6	Isomerism	340
12.7	Fundamental Concepts in Organic Reaction Mechanism	341
12.8	Methods of Purification of Organic Compounds	348
12.9	Qualitative Analysis of Organic Compounds	354
12.10	Quantitative Analysis	355
<b>Unit 13</b>	<b>Hydrocarbons</b>	<b>365</b>
13.1	Classification	365
13.2	Alkanes	366
13.3	Alkenes	376
13.4	Alkynes	384
13.5	Aromatic Hydrocarbon	388
13.6	Carcinogenicity and Toxicity	395
<b>Unit 14</b>	<b>Environmental Chemistry</b>	<b>398</b>
14.1	Environmental Pollution	398
14.2	Atmospheric Pollution	399
14.3	Water Pollution	406
14.4	Soil Pollution	408
14.5	Industrial Waste	409
14.6	Strategies to control Environmental Pollution	410
14.7	Green Chemistry	410
	<b>Answers</b>	<b>414</b>
	<b>Index</b>	<b>418</b>