A Text Book on

NANOCHEMISTRY

K A L P A N A D E V I K

A TEXT BOOK ON NANOCHEMISTRY

By

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Preface

The present book entitled “A Text Book of Nanochemistry” contains the essentials of nanochemistry, which include introduction on nanomaterials, their properties, preparation methods and applications. This book will cater to the need of all the students at the BSc., and MSc., level.

The book is written in a simple language so that it will be easier for the students studying in the medium other than English.

It is hoped that the book will be liked by the students and the teachers as well.

I am grateful to a number of authors whose works have been freely consulted while preparing this book.

I am highly thankful to my husband, daughters and my parents for their moral support and encouragement they have shown towards the successful publication of this book.

Dr. K. Kalpanadevi

Dedicated to

My Daughters

CONTENTS

- Chemical methods

  Chemical vapor deposition (CVD)

  Sol-gel method

  High temperature thermal decomposition method

  Liquid-liquid interface reaction

  Hydrothermal method

  Chemical reduction method

4. Characterization of nanomaterials

- Scanning Electron Microscopy (SEM)
- Transmission Electron Microscopy (TEM)
- Atomic Force Microscopy (AFM)
- X-Ray Diffraction (XRD)

5. Applications and hazards of nanomaterials

- Applications of nanomaterials

  Applications of nanomaterials in environment

  Applications of nanomaterials in industry

- Hazards of nanomaterials

  Hazards of nanomaterials to human health

  Hazards of nanomaterials to environment

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