

Khanna's

*Objective Type
Questions and Answers in*

Chemical Engineering

O.P. Gupta

A comprehensive book for quick reference and objective type questions for all types of competitive examinations and interviews. This book is also useful for the recruitment test by various public & private sector undertakings, graduate aptitude test (GATE) examination conducted by IIT for admission to M. Tech/M.E. courses and similar examinations.

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in
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**Objective Type
Questions and Answers
in
Chemical
Engineering**

*[for all types of competitions conducted by
GATE, IIT's for admission to M.Tech., Public Undertakings
and other Organisations]*

Om Prakash Gupta



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Dedicated to my

Parents

and

Anita, Jaya, Manish

FOREWORD

Although this book by Mr. Om Prakash Gupta is oriented primarily for the students and young Chemical Engineers, it can be of great value to any one engaged in Chemical Engineering Profession. In spite of several traditional books being available, the need of a ready means of knowledge has been long felt. Mr. Gupta has taken the trouble of filling this gap. The book's coverage is broad, the contents are well compiled, with good graded questions and arranged systematically.

I am sure, this book will be of great use.

Rourkela
November, 1982

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PREFACE TO THE FIRST EDITION

This book is meant for graduates in chemical engineering who are intending to appear in the written tests conducted by various public sector undertakings for the recruitment.

This book will be helping hand/tool for all such examinations conducted by Steel Authority of India Limited (SAIL), Rashtriya Chemicals and Fertilisers Limited (RCF), Indian Farmers Fertiliser Co-operative Limited (IFFCO), Engineers India Limited (EIL), Indian Oil Corporation (IOC), Hindustan Fertiliser Corporation (HFC), National Fertiliser Limited (NFL), Hindustan Copper Limited (HCL), Fertiliser and Chemicals Travancore Limited (FACT), Bongaigoan Refinery and Petrochemical Limited (BRPL), Indian Petrochemical Corporation Limited (IPCL), Oil and Natural Gas Commission (ONGC) etc.

Questions have been arranged subjectwise and the answers are given at the end of the respective chapters.

—Om Prakash Gupta

PREFACE TO THE THIRTEENTH EDITION

This book being indispensable for chemical engineering/technology students/graduates over the last two decades needed another updating in view of the fact that better is the enemy of good as well as to keep pace with the changing domain of chemical engineering/technology education in the country and abroad. This objective has been accomplished by adding about 1500 questions of various types in this edition thereby having over 11000 questions in total in this book. All these questions have appeared in some examination or another undertaken by chemical engineering diploma, degree and post-graduate students of various Polytechnics, Engineering Colleges/Universities, I.I.T's, N.I.T's, Deemed/Autonomous Universities and Institutes of Chemical Technology. These questions are further tailor made for GATE (Graduate Aptitude Test in Engineering) examination [for admission into M.Tech./M.E. M.Sc. (Engg.)], GRE (graduate record examination) for admission to U.S. (American) & other overseas universities, recruitment test for management trainees (technical) conducted by public sector undertakings, recruitment tests for graduate engineer trainees conducted by private sector companies etc.

Questions have been framed in such a manner so as to be informative rather than being merely speculative.

This book in its present form has been designed to serve as an 'Encyclopedia of Chemical Engineering' so as to be a ready reckoner apart from being useful for all types of written tests and interviews faced by chemical engineering students/graduates/post-graduates. It will also serve as a '**Handbook of Chemical Engineering**' for ready reference by practising chemical engineers in any relevant profession. Besides, teachers, employers and interviewers of chemical engineers will also find this book handy for their use.

All the constructive and useful suggestions for the further improvement of the book will be gladly accepted and incorporated in the future editions/reprints.

—Om Prakash Gupta
4F/2076, B.S. City-827004

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This book is useful for various :

- (a) **Academic programmes**
- (b) **Recruitment tests and interviews** of public sector, private sector and central government organisations & undertakings.

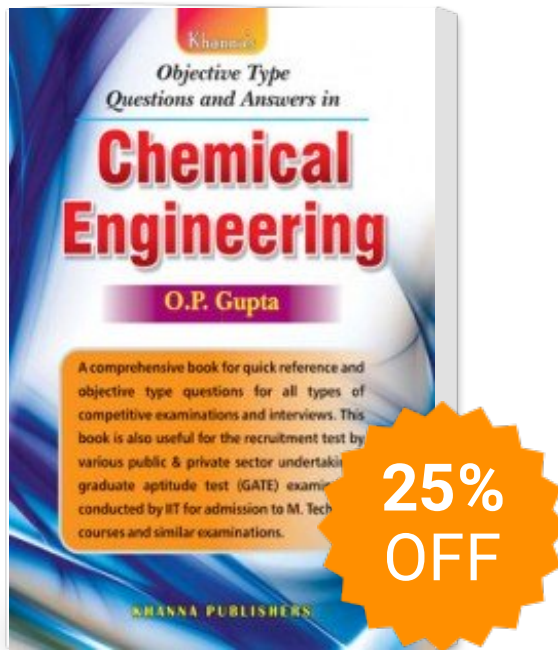
A-List of Academic Programmes for which this book is useful:

1. **Dip. Ch.E** — Diploma in Chemical Engineering.
2. **B.Tech/B.E. (Chem Engg.)** — Degree in Chemical Engineering/Technology.
3. **AMIE (Chemical Engg.)** — Associate Membership Examination of Institute of Engineers in Chemical Engineering.
4. **AMIChE** — Associate Membership Examination of Indian Institute of Chemical Engineers.
5. **GATE** — Graduate Aptitude Test in Engineering Examination for admission in M.Tech/M.E., M.Sc. (Engg.) courses in India.
6. **GRE** — Graduate Record Examination for post graduate admission abroad in U.S. Universities for M.S. degree.
7. **AIC** — Associateship Examination of Institute of Chemist.
8. **B.Tech (Polymer Technology)** — Degree in Polymer Technology or Plastic Technology.
9. **B.Tech (Env. Engg.)** — Degree in Environmental Engineering.
10. **B.Tech. (Petroleum)** — Degree in Petroleum Engineering.
11. **B.Tech (Petrochemical Engg.)** — Degree in Petrochemical Engineering.
12. **B.Tech (Chemical Technology)** — Degree in Food Technology, Sugar Technology, Oil & Paint Technology, Textile Technology etc.
13. **B.Tech (Ceramic Engg.)** — Degree in Ceramic Engineering/Technology.

B. List of Public sector/Private sector/Government Organisation conducting recruitment tests and interviews for the selection of Management Trainees (Technical)/Graduate Engineer Trainee/Junior Scientific Officer etc. for which this book is useful.

13. **BARC** — Bhabha Atomic Research Centre, Trombay.
14. **DRDO** — Defence Research and Development Organisation.
15. **IFS** — Indian Forest Service.
16. **SAIL** — Steel Authority of India Limited.
17. **RINL** — Rashtriya Ispat Nigam Limited, Visakhapatnam.
18. **KIOL** — Kudremukh Iron Ore Limited, Kudremukh.
19. **TISCO** — Tata Iron and Steel Company, Jamshedpur.
20. **IOC** — Indian Oil Corporation.
21. **ONGC** — Oil and Natural Gas Corporation Limited.
22. **GAIL** — Gas Authority of India Limited.
23. **HPCL** — Hindustan Petroleum Corporation Limited.

Chemical Engineering(Objective Type)



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