

NTPC Assistant Chemist Syllabus 2025

Subject-Wise Topics & Exam Pattern

Recruitment Overview

Organization Name	National Thermal Power Corporation (NTPC)
Post Name	Assistant Chemist Trainee (ACT)
Number of Vacancies	25 Posts
Application Start Date	15th July 2025
Application End Date	31st July 2025
Mode of Exam	Online (Computer Based Test)
Official Website	www.ntpccareers.net

Exam Pattern

Key Highlights:

- **Mode:** Online
- **Type:** Multiple Choice Questions (MCQs)
- **Duration:** 2 Hours
- **Total Questions:** 150
- **Total Marks:** 150
- **Negative Marking:** 1/4 mark for each wrong answer

S.No	Subject	No. of Questions	Marks	Duration
1	Chemistry (Core)	120	120	2 Hours Total
2	General Aptitude	30	30	
Total		150	150	

Subject-wise Syllabus

Subject	Topics Covered
Physical Chemistry	<ul style="list-style-type: none">• Atomic Structure• Thermodynamics• Redox Reactions• States of Matter• Ionic Equilibrium• Electrochemistry• Surface Chemistry• Nuclear Chemistry• Phase Equilibria• Chemical Kinetics
Organic Chemistry	<ul style="list-style-type: none">• Basics & Stereochemistry• Alkanes, Alkenes, Alkynes• Oxygen-Containing Compounds• Halogen Compounds• Carbonyl Chemistry• Nitrogen-Containing Compounds• Benzene and Heterocycles• Polymers• Spectroscopy (IR, UV, NMR)• Environmental Chemistry• Biomolecules (Proteins, Lipids, Carbohydrates)
Inorganic Chemistry	<ul style="list-style-type: none">• Mole Concept, Stoichiometry• Chemical Bonding• Periodic Table• Transition Elements & Lanthanides• Analytical Chemistry• S-Block & P-Block Elements• Metallurgy (Ellingham Diagram Basics)• Coordination Compounds• B-Inorganic Chemistry
General Aptitude	<ul style="list-style-type: none">• Vocabulary & Reading Comprehension• Quantitative Aptitude• Data Interpretation• Logical Reasoning• General Awareness

Recommended Books

Physical Chemistry

Book Title	Author/Publisher	Why Recommended
Physical Chemistry	O.P. Tandon	Concept clarity, exam-oriented
Physical Chemistry	P. Bahadur	Best for numerical practice
Modern Approach to Chemical Calculations	R.C. Mukherjee	Ideal for Stoichiometry & Mole Concept

Organic Chemistry

Book Title	Author/Publisher	Why Recommended
Organic Chemistry	Morrison & Boyd	Strong conceptual base
Organic Chemistry	O.P. Tandon	Covers all key exam topics
Organic Chemistry	Himanshu Pandey (GRB)	Best for reaction practice & MCQs

Inorganic Chemistry

Book Title	Author/Publisher	Why Recommended
Concise Inorganic Chemistry	J.D. Lee	Easy explanations of complex topics
Inorganic Chemistry	O.P. Tandon	Detailed and exam-centric
Conceptual Inorganic Chemistry	S.K. Jain & Shashi Jain	Good for coordination chemistry & basics

General Aptitude

Book Title	Author/Publisher	Why Recommended
Quantitative Aptitude	R.S. Aggarwal	Best for math basics and practice
A Modern Approach to Logical Reasoning	R.S. Aggarwal	Covers all logical reasoning types
Objective General English	S.P. Bakshi (Arihant)	Strengthens vocabulary and comprehension
Lucent General Knowledge	Lucent Publications	Covers static GK and general awareness

Preparation Tips

- **Understand the Exam Pattern:** Know the subject weightage and negative marking.
- **Make a Study Plan:** Allocate more time for chemistry subjects.
- **Use NCERT and Reference Books:** Especially for Physical & Organic Chemistry.
- **Attempt Mock Tests Regularly:** Identify weak areas and improve speed.
- **Solve Previous Year Papers:** Understand question trends and difficulty level.
- **Stay Updated on General Awareness:** Focus on current affairs and general science.
- **Previous Year Papers:** Practice previous NTPC/DDA/PSU chemist papers.
- **Mock Tests & Online Test Series:** Join a reputed online platform for chapter-wise and full-length mock tests.

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