

# Telangana State Polytechnic Common Entrance Test

## Mathematics

- Real Numbers
- Number System
- Sets
- Polynomials
- Algebra
- Progressions
- Quadratic Equations
- Linear Equations
- Geometry
- Coordinate Geometry
- Surface Areas & Volume
- Trigonometry
- Mensuration
- Probability
- Statistics
- Mathematical Modeling

## Physics

- A structure of Atom
- Chemical Bonding
- Carbon & its Compounds
- Heat
- Classification of Elements
- Magnetic Effects of Electric Current
- Chemical Equations & Reactions
- Acids, Bases & Salts
- Refraction of Light at Plane Surface
- Refraction of Light at Curved Surface
- Human Eye & Colorful World
- Electricity
- Metallurgy
- Reflection of Light

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## Chemistry

- The States of Matter
- Surface Chemistry
- Electrochemistry
- Redox Reactions
- Polymers
- Nuclear Chemistry
- Chemical and Ionic Equilibrium
- Phase equilibria & Solutions
- Chemical Thermodynamics
- Basic Concepts in Organic Chemistry and Stereochemistry
- Organic compounds with the functional group containing nitrogen
- Chemical Kinetics
- Atomic Structure
- Chemistry in everyday life
- Urea and malonic ester
- Qualitative and quantitative analysis and purification of organic compounds
- Preparation, Properties, and Reactions of Alkanes, Alkenes, Alkynes
- Organic compounds with the functional group containing oxygen
- Reactions of Benzene and heterocyclic compounds
- Organic compounds with the functional group containing halogens
- Biomolecules – Carbohydrates, Protein, Vitamins, Nucleic Acid, Lipids, Hormones Reactions of a, b unsaturated carbonyl and acids
- Spectroscopy measurements including IR, UV, NMR (proton and carbon 13)
- Environmental Chemistry