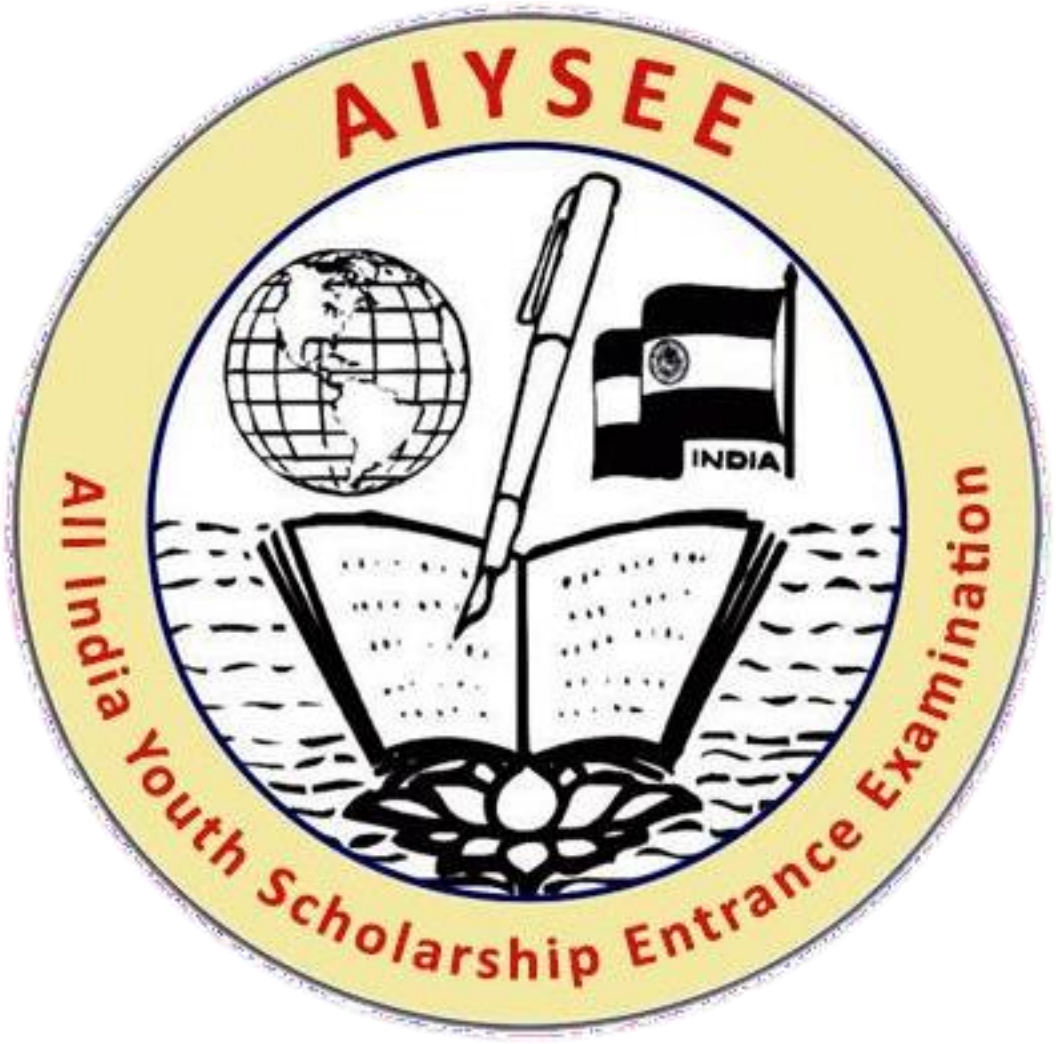
अखिल भारतीय युवा छात्रवृति प्रवेश परीक्षा

ALL INDIA YOUTH SCHOLARSHIP ENTRANCE EXAMINATION



अखिल भारतीय युवा छात्रवृति प्रवेश परीक्षा

ALL INDIA YOUTH SCHOLARSHIP ENTRANCE EXAMINATION

अखिल भारतीय युवा छात्रवृति प्रवेश परीक्षा
ALL INDIA YOUTH SCHOLARSHIP ENTRANCE EXAMINATION

AIYSEE ENGINEERING SYLLABUS

PHYSICS

1. **Physical world and Measurement**
   - Units and Dimensions, Errors, Significant Figures
   - Measurements and their accuracy
2. **Kinematics**
   - Motion in a Straight Line, Motion in a Plane, Relative Velocity
3. **Laws of Motion**
   - Newton's Laws, Friction, Circular Motion, Free Body Diagrams
4. **Work, Energy, and Power**
   - Work-Energy Theorem, Power, Potential Energy, Conservation of Energy
5. **Rotational Motion**
   - Torque, Angular Momentum, Moment of Inertia, Rolling Motion
6. **Gravitation**
   - Universal Law of Gravitation, Kepler's Laws, Satellite Motion, Escape Velocity
7. **Thermodynamics**
   - Heat, Work, First Law, Specific Heats, Isothermal & Adiabatic Processes
8. **Kinetic Theory of Gases**
   - Pressure of a Gas, RMS Velocity, Degrees of Freedom, Equipartition
9. **Oscillations and Waves**
   - SHM, Simple Pendulum, Damped and Forced Oscillations, Wave Motion, Sound Waves, Doppler Effect

---

Class 12 Topics

1. **Electrostatics**
   - Coulomb's Law, Electric Field, Potential, Capacitance, Dielectrics
2. **Current Electricity**
   - Ohm's Law, Series & Parallel Circuits, Kirchhoff's Laws, Wheatstone Bridge
3. **Magnetic Effects of Current & Magnetism**
   - Biot–Savart Law, Ampere's Law, Lorentz Force, Moving Coil Galvanometer
4. **Electromagnetic Induction and Alternating Currents**
   - Faraday's Laws, Lenz's Law, Eddy Currents, AC Circuits, Resonance
5. **Electromagnetic Waves**
   - Displacement Current, EM Wave Spectrum

अखिल भारतीय युवा छात्रवृति प्रवेश परीक्षा
ALL INDIA YOUTH SCHOLARSHIP ENTRANCE EXAMINATION

6. **Optics**
    - Reflection, Refraction, Lenses, Wave Optics, Interference, Diffraction, Polarization
7. **Dual Nature of Matter and Radiation**
    - Photoelectric Effect, de Broglie Waves, Electron Diffraction
8. **Atoms and Nuclei**
    - Bohr Model, Radioactivity, Nuclear Energy
9. **Electronic Devices**
    - Semiconductors, Diodes, Transistors, Logic Gates

CHEMISTRY

Class 11 Topics

1. **Some Basic Concepts of Chemistry**
    - Mole Concept, Stoichiometry, Atomic Mass
2. **Structure of Atom**
    - Bohr Model, Quantum Numbers, Electronic Configuration
3. **Classification of Elements and Periodicity**
    - Periodic Table, Periodic Properties
4. **Chemical Bonding and Molecular Structure**
    - VSEPR Theory, Hybridization, Molecular Orbital Theory
5. **States of Matter**
    - Gaseous State, Ideal Gas Equation, Kinetic Theory
6. **Thermodynamics**
    - Enthalpy, Internal Energy, Hess's Law, Spontaneity
7. **Equilibrium**
    - Le Chatelier's Principle, Ionic Equilibrium, pH
8. **Redox Reactions**
9. **Hydrogen**
10. **The s-Block Element (Alkali & Alkaline Earth Metals)**
11. **The p-Block Element (Group 13–18 overview)**
12. **Organic Chemistry – Some Basic Principles and Techniques**
13. **Hydrocarbons**
14. **Environmental Chemistry**

Class 12 Topics

1. **Solid State**
   - Crystal Lattices, Packing, Defects, Conductivity
2. **Solutions**
   - Raoult's Law, Colligative Properties
3. **Electrochemistry**
   - Galvanic Cells, Nernst Equation, Electrolysis
4. **Chemical Kinetics**
   - Rate Laws, Order of Reaction, Activation Energy
5. **Surface Chemistry**
   - Adsorption, Catalysis, Colloids
6. **p-Block Elements (Groups 15–18 in detail)**
7. **d- and f-Block Elements**
8. **Coordination Compounds**
9. **Haloalkanes and Haloarenes**
10. **Alcohols, Phenols, and Ethers**
11. **Aldehydes, Ketones and Carboxylic Acids**
12. **Amines**
13. **Biomolecules**
14. **Polymers**
15. **Chemistry in Everyday Life**

MATHEMATICS

Class 11 Topics

1. **Sets, Relations and Functions**
2. **Complex Numbers and Quadratic Equations**
3. **Permutations and Combinations**
4. **Binomial Theorem**
5. **Sequence and Series**
6. **Straight Lines and Conic Sections (Parabola, Ellipse, Hyperbola)**
7. **Limits and Derivatives (Introduction)**
8. **Mathematical Induction**
9. **Statistics and Probability**
10. **Trigonometry**

अखिल भारतीय युवा छात्रवृति प्रवेश परीक्षा
ALL INDIA YOUTH SCHOLARSHIP ENTRANCE EXAMINATION

Class 12 Topics

1. **Relations and Functions (Inverse Trig Functions)**
2. **Matrices and Determinants**
3. **Continuity, Differentiability and Applications of Derivatives**
4. **Integrals and Applications of Integrals**
5. **Differential Equations**
6. **Vectors**
7. **Three-Dimensional Geometry**
8. **Probability (Advanced)**
9. **Linear Programming**