

# **BIPC Syllabus - TOSS and NIOS**

## **Telangana Open School Society (TOSS) - Intermediate BIPC Syllabus**

The Telangana Open School Society (TOSS) Intermediate BIPC stream includes Biology, Physics, and Chemistry.

The syllabus is based on the Telangana State Intermediate Education curriculum adapted for open learners.

Biology:

1. Diversity in the Living World
2. Structural Organisation in Animals and Plants
3. Cell Structure and Function
4. Plant Physiology and Human Physiology
5. Reproduction in Plants and Animals
6. Genetics and Evolution
7. Biology in Human Welfare (Health, Diseases, Food Production)
8. Biotechnology and its Applications
9. Ecology and Environment

Physics:

1. Units and Dimensions, Scalars and Vectors
2. Kinematics: Motion in One and Two Dimensions
3. Laws of Motion, Friction, Work, Power, and Energy
4. Gravitation and Planetary Motion
5. Properties of Matter: Elasticity, Surface Tension, Viscosity
6. Heat and Thermodynamics
7. Oscillations, Waves, and Sound
8. Optics: Reflection, Refraction, and Optical Instruments
9. Electrostatics and Current Electricity
10. Magnetism, Electromagnetic Induction, and Alternating Current
11. Modern Physics: Dual Nature of Matter, Atoms, and Nuclei

Chemistry:

1. Structure of Atom and Periodic Classification
2. Chemical Bonding and Molecular Structure
3. States of Matter and Gas Laws
4. Thermodynamics and Thermochemistry
5. Chemical Equilibrium and Ionic Equilibrium
6. Redox Reactions and Electrochemistry
7. Chemical Kinetics
8. Classification of Elements and Periodicity
9. Organic Chemistry: Hydrocarbons, Biomolecules, and Functional Groups
10. Environmental Chemistry and Everyday Applications

## **National Institute of Open Schooling (NIOS) - Senior Secondary BIPC Syllabus**

The National Institute of Open Schooling (NIOS) Senior Secondary BIPC stream offers Biology (314), Physics (312), and Chemistry (313) as core subjects. The curriculum emphasizes both theoretical and practical learning.

Biology (314):

1. Diversity of Living Organisms
2. Structural Organisation in Plants and Animals
3. Cell Structure and Function
4. Plant Physiology and Human Physiology
5. Reproduction in Organisms
6. Genetics and Evolution
7. Biology and Human Welfare (Health, Disease, Food Production)
8. Biotechnology and Applications
9. Ecology and Environment
10. Environmental Issues and Conservation

Physics (312):

1. Units and Measurements, Scalars and Vectors
2. Motion in One and Two Dimensions
3. Laws of Motion, Work, Power, and Energy

4. Gravitation and Planetary Motion
5. Properties of Matter: Elasticity, Surface Tension, Viscosity
6. Heat and Thermodynamics
7. Oscillations and Waves
8. Optics: Ray Optics and Wave Optics
9. Electrostatics, Electric Current, and Magnetism
10. Electromagnetic Induction and Alternating Current
11. Modern Physics: Atomic Models and Nuclear Physics

Chemistry (313):

1. Basic Concepts of Chemistry
2. Structure of Atom and Classification of Elements
3. Chemical Bonding and Molecular Structure
4. States of Matter and Thermodynamics
5. Equilibrium and Redox Reactions
6. Chemical Kinetics and Electrochemistry
7. Coordination Compounds
8. Organic Chemistry: Hydrocarbons, Alcohols, Aldehydes, Ketones, Acids
9. Environmental Chemistry
10. Biomolecules and Polymers

*Note: These syllabi are compiled based on official TOSS and NIOS course materials. For detailed modules, refer to the respective official websites of TOSS and NIOS.*