



**BHARTIYA SHIKSHA BOARD**  
**SUBJECT: SUSTAINABILITY AND CLIMATE  
CHANGE**  
**CLASS XI**

**SUBJECT CODE: 157**

**Theory:** 80 Marks

**Time:** 3 Hrs.

**Project:** 20 Marks (Project File: 12 Marks and Viva: 8 Marks)

**Annual Hrs.:** 170

**Annual Periods:** 204

## Course Objectives

1. Develop a comprehensive understanding of sustainability through systems thinking,
2. Relate global challenges to Indian cultural, ethical, and knowledge traditions, fostering contextual awareness.
3. Acquire practical skills in environmental monitoring, waste management, energy usage, and data analysis.
4. Participate in community-based projects that address the United Nations Sustainable Development Goals (SDGs), influenced by UNESCO frameworks.
5. Evaluate sustainability from ethical, economic, and governance viewpoints.
6. Strengthen competencies for higher education and nurture skills for global citizenship.

## Mission and Vision: Global Benchmarking and Indian Rooting

1. **Global Benchmarking:** Incorporate systems thinking and research skills from NCERT, IB Environmental Systems and Societies (ESS), integrate UNESCO's focus on SDGs and Ethics and adopt laboratory and simulation-based approaches from the US education system.
2. **Indian Rooting:** Emphasise upon Indian Knowledge Systems, Swadesi values (derived from Indian philosophy and religion, etc.), Indian environmental legislation, and case studies from diverse Indian communities.
3. **Practical Engagement:** Engage in community projects, conduct eco-audits, foster product innovation, and participate in simulations to enhance experiential learning.

## UNITS-WISE MARKS AND PERIODS WEIGHTAGE

Sr No	Units	Chapters	Weightage	Periods
I	Development degrades the Environment	<ul style="list-style-type: none"> <li>• <b>Chapter 1</b> – Importance of Environmental Study</li> <li>• <b>Chapter 2</b> – Environmental Pollutions</li> </ul>	10 Marks	34
II	Ecology, Biodiversity, and Natural Resources	<ul style="list-style-type: none"> <li>• <b>Chapter 3</b> – Principle of ecology, Ecosystem Structure</li> <li>• <b>Chapter 4</b> – Biodiversity, Ecological Hotspots, Ecological Protected Areas</li> <li>• <b>Chapter 5</b> – Traditional Ecological Knowledge and Bharatiya Gyan Parampara</li> </ul>	10 Marks	34
III	Pollution and Waste Management	<ul style="list-style-type: none"> <li>• <b>Chapter 6</b> – Fundamentals of Climate Change, Global Warming and Ozone Depletion</li> <li>• <b>Chapter 7</b> – Waste Management and Circular Economy Concepts</li> </ul>	20 Marks	41
IV	Resource Management for Sustainable Development	<ul style="list-style-type: none"> <li>• <b>Chapter 8</b> - Natural Resource Management and Sustainable Energy</li> <li>• <b>Chapter 9</b> - Understanding Sustainability, Sustainable Development Goals, Sustainable Lifestyle, Mission Life and Ethics</li> </ul>	20 Marks	41
V	Environmental Governance	<ul style="list-style-type: none"> <li>• <b>Chapter 10</b> - Evolution of Indian environmental governance and legal system</li> <li>• <b>Chapter 11</b> - Global environmental governance: from Stockholm to Paris, Indian environmental laws and institutions (MoEFCC, CPCB, NGT), role of NGO.</li> </ul>	10 Marks	27
VI	Technology, Innovation and Climate Solutions	<ul style="list-style-type: none"> <li>• <b>Chapter 12</b> - Sustainability technologies: artificial intelligence, remote sensing, and green energy, clean mobility and electric vehicle mission, waste-to-energy.</li> </ul>	10 Marks	27

#### 4. COMPETENCY-WISE DISTRIBUTION

Competencies	Value Outcomes	Weightage (%)
Remembering and understanding	Pupils should be able to recall key terms, facts, and fundamental ideas. Additionally, they should be able to organise information, compare various concepts, interpret meaning, describe in their own words, and identify the key ideas in order to comprehend these ideas clearly.	25
Application	Students should be able to apply their knowledge and understanding in new situations. They should use learned concepts, facts, methods, and rules to solve problems, make decisions, and handle unfamiliar contexts independently.	50
Formulation (Analysing, Evaluating and Creating)	<p><b>Analyse:</b> Examine and break information into parts, and determine how the parts relate to one another and to the overall structure or purpose by identifying motives or causes, so that the organisational structure is understood. Distinguish between facts and inferences. Make inferences and find evidence to support generalisations.</p> <p><b>Synthesis:</b> Build a structure or pattern from diverse elements; put parts together to form a whole, with emphasis on creating new meaning or structure.</p> <p><b>Create:</b> Put elements together to form a new coherent or functional whole; reorganise elements into a new pattern or structure.</p>	25