

## CRITICAL STUDY OF CURRICULUM FRAMEWORK FOR ENVIRONMENT EDUCATION - 2023 AT UNDERGRADUATE LEVEL

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### Abstract:

The importance of environmental education cannot be disputed. The need for sustainable development is a key to the future of mankind. Out of the 17 Sustainable Development Goals (SDGs), nine goals are directly linked to Environmental protection. Hon'ble Supreme Court directed the UGC to introduce a basic course on environment at every level of education. Accordingly, the matter was considered by UGC and a six months compulsory core module course in environmental studies was prepared in 2004. The National Education Policy (NEP) 2020 underlines the importance of making environmental education an integral part of curricula and encouraging environmental awareness and sensitivity towards its conservation and sustainable development. In June 2023 UGC published a document which provides guidelines and curriculum framework for environmental education at undergraduate level which is an outcome of the UGC's initiative to implement the National Education Policy, 2020. The present research focuses on Sustainable Development Goals related to the Environmental Education. The present study underlines the importance of practical's and activities in environmental education and provides unit wise list of practical's and activities which should be considered by universities during construction of syllabus to achieve sustainable development goals.

**Key Words :** Sustainable Development Goal, Curriculum Framework for Environment Education -2023

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### Introduction:

The National Education Policy (NEP) 2020 underlines the importance of making environmental education an integral part of curricula and encouraging environmental awareness and sensitivity towards its conservation and sustainable development. United Nations Conference on Environment and Development was held in Rio de Janerio in 1992 after that conference whole world was concerned about environment. The 2030 Agenda for Sustainable Development, adopted by United Nation in 2015, provides a shared blueprint for peace and prosperity for people and the planet. At its heart are the 17 Sustainable Development Goals (SDGs), which are an urgent call for action by all countries. Out of the 17 Sustainable Development Goals (SDGs), nine goals are directly linked to Environmental protection and resource conservation. Therefore Environment Education has become an important in school and undergraduate curriculums around the world.

### Definition of Environmental Education:

#### Environmental Education (EE):

There are many definitions of the term EE, but the most important one was given by UNESCO: "Environmental education is a learning process that increases people's knowledge and awareness about the environment and

associated challenges, develops the necessary skills and expertise to address the challenges, and fosters attitudes, motivations, and commitments to make informed decisions and take responsible action” (Borah, 2007).

**The Components of Environmental Education are:**

1. **Awareness and sensitivity** to the environment and environmental challenges
2. **Knowledge** and understanding of the environment and environmental challenges
3. **Attitudes** of concern for the environment and motivation to improve or maintain environmental quality
4. **Skills** to identify and help resolve environmental challenges
5. **Participation** in activities that lead to the resolution of environmental challenges

**Supreme Court Order on Environmental Education:**

The original Supreme Court order, issued in 1991 mandated compulsory environment education to fulfill the fundamental duty of citizens to "protect and improve the natural environment," as set out in the Constitution of India.

**Sustainable Development Goals (SDGs) directly linked to Environmental Protection and Resource Conservation.**

1. Good health and well-being (SDG 3),
2. Clean water and sanitation (SDG 6),
3. Affordable and clean energy (SDG 7),
4. An Industry, innovation and infrastructure (SDG 9),
5. Sustainable cities and communities (SDG 11),
6. Responsible consumption and production (SDG 12),
7. Climate action (SDG 13),
8. Life below water (SDG 14),
9. Life on land (SDG 15),

**Curriculum Framework for Environmental Education at Undergraduate level by UGC Published in June 2023**

1. Humans and the Environment
2. Natural Resources and Sustainable Development
3. Environmental Issues: Local, Regional and Global
4. Conservation of Biodiversity and Ecosystems
5. Environmental Pollution and Health
6. Climate Change: Impacts, Adaptation and Mitigation
7. Environmental Management
8. Environmental Treaties and Legislation
9. Case studies and fieldwork

Total credits of the Course = 4

As per UGC Curriculum and Credit Framework for Undergraduate Programmes a one credit of tutorial work

means one-hour engagement per week. In a semester of 15 weeks duration, a one credit tutorial in a course is equivalent to 15 hours of engagement.

A one credit course in practicum or lab work, community engagement and services, and field work in a semester means two-hour engagement per week. In a semester of 15 weeks duration, a one credit practicum in a course is equivalent to 30 hours of engagement.

The proposed number of credits per course and the credit distribution are suggestive and the HEIs may decide on course credits and distribution over 6/8 semesters in a manner that will facilitate the students to meet the minimum credit requirements.

**Some of the issues that should emphasized more in the Syllabus of Environmental Education for Under Graduate courses to achieve Sustainable Development Goals**

| Sr. No. | Sustainable Development Goals                                                                                                                                                                                                                           | Unit                                                                                                 | Theory                                                                                                                                                                                                                                                                                                                                                                                               | Practical's / Activities                                                                                                                                                                                                                                                                    |
|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1       | <ul style="list-style-type: none"> <li>➤ Good health and well-being (SDG 3)</li> <li>➤ Clean water and sanitation (SDG 6)</li> <li>➤ Sustainable cities and communities (SDG 11)</li> <li>➤ Responsible consumption and production (SDG 12)</li> </ul>  | <ul style="list-style-type: none"> <li>• Humans and the Environment</li> </ul>                       | <ul style="list-style-type: none"> <li>✓ The man-environment interaction</li> <li>✓ Population growth and natural resource exploitation</li> <li>✓ UN Conference on Human Environment 1972</li> <li>✓ World Commission on Environment and Development</li> <li>✓ The concept of sustainable development</li> </ul>                                                                                   | <ul style="list-style-type: none"> <li>• Discussion on Environmental Ethics.</li> <li>• Discussion on one national case study related to the environment.</li> <li>• Search a video on You Tube related to History of Agriculture</li> <li>• Add indoor plants in your classroom</li> </ul> |
| 2       | <ul style="list-style-type: none"> <li>➤ Clean water and sanitation (SDG 6)</li> <li>➤ Affordable and clean energy (SDG 7)</li> <li>➤ Sustainable cities and communities (SDG 11)</li> <li>➤ Responsible consumption and production (SDG 12)</li> </ul> | <ul style="list-style-type: none"> <li>• Natural Resources and Sustainable Development</li> </ul>    | <ul style="list-style-type: none"> <li>✓ Definition of resource, Classification of natural resources</li> <li>✓ Biotic resources: forests, grasslands, wetlands, wildlife and aquatic</li> <li>✓ Water resources: Water scarcity and stress;</li> <li>✓ Mineral exploitation;</li> <li>✓ Energy resources: Non-conventional energysources</li> <li>✓ Sustainable Development Goals (SDGs)</li> </ul> | <ul style="list-style-type: none"> <li>• Discussion with Principal on Campus environmental management activities such as water Management and sanitation</li> <li>• Field visits to solar / Wind Energy Projects</li> <li>• Organize a Rally for Solar panels</li> </ul>                    |
| 3       | <ul style="list-style-type: none"> <li>➤ Clean water and sanitation (SDG 6)</li> <li>➤ Sustainable cities and communities (SDG 11)</li> </ul>                                                                                                           | <ul style="list-style-type: none"> <li>• Environmental Issues: Local, Regional and Global</li> </ul> | <ul style="list-style-type: none"> <li>✓ Environmental issues</li> <li>✓ Pollution: Types of Pollution</li> <li>✓ Land use and land degradation,</li> </ul>                                                                                                                                                                                                                                          | <ul style="list-style-type: none"> <li>• Field visits to identify local environmental issues</li> </ul>                                                                                                                                                                                     |

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|   | <ul style="list-style-type: none"> <li>➤ Responsible consumption and production (SDG 12)</li> <li>➤ Climate action (SDG 13)</li> </ul>                                                                                                                                  |                                                                                                 | <p>deforestation, desertification,</p> <ul style="list-style-type: none"> <li>✓ Biodiversity loss</li> <li>✓ Ozone layer depletion</li> <li>✓ Climate change.</li> <li>✓ Disasters – Natural and Man-made</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                    | <ul style="list-style-type: none"> <li>• Collect a soil sample from local agriculture field and make soil analysis report</li> <li>• Collect a satellite images of ozone layer depletion from internet</li> </ul>                                                                                                                                       |
| 4 | <ul style="list-style-type: none"> <li>➤ Affordable and clean energy (SDG 7)</li> <li>➤ Life below water (SDG 14)</li> <li>➤ Life on land (SDG 15)</li> </ul>                                                                                                           | <ul style="list-style-type: none"> <li>• Conservation of Biodiversity and Ecosystems</li> </ul> | <ul style="list-style-type: none"> <li>➤ Biodiversity as a natural resource; types of biodiversity</li> <li>➤ Biodiversity hotspots</li> <li>➤ Threats to biodiversity and ecosystems</li> <li>➤ Major protected areas</li> <li>➤ National and International Instruments for biodiversity conservation</li> <li>➤ community-based conservation</li> <li>➤ Ecosystems</li> </ul>                                                                                                                                                                                                                                         | <ul style="list-style-type: none"> <li>• Participation in nature camps.</li> <li>• Documentation of campus biodiversity.</li> <li>• Plant a tree and make a selfie with tree</li> <li>• Plantation of Medicinal plant at college campus</li> </ul>                                                                                                      |
| 5 | <ul style="list-style-type: none"> <li>➤ Good health and well-being (SDG 3)</li> <li>➤ Clean water and sanitation (SDG 6)</li> <li>➤ Industry, innovation and infrastructure (SDG 9)</li> <li>➤ Climate action (SDG 13)</li> <li>➤ Life below water (SDG 14)</li> </ul> | <ul style="list-style-type: none"> <li>• Environmental Pollution and Health</li> </ul>          | <ul style="list-style-type: none"> <li>➤ Definition of pollution</li> <li>➤ Air pollution: important air pollutants- Volatile Organic compounds (VOCs), Indoor air pollution; Adverse health impacts of air pollutants</li> <li>➤ Water pollution: Sources of water pollution adverse health impacts of water pollution on human and aquatic life.</li> <li>➤ Soil pollution and solid waste Impact on human health.</li> <li>➤ Noise pollution: Noise standards; adverse impacts of noise on human health.</li> <li>➤ Thermal and radioactive pollution: Sources and impact on human health and ecosystems.</li> </ul> | <ul style="list-style-type: none"> <li>• Study of Campus environmental management activities.</li> <li>• Industrial Visit to study Environment management system</li> <li>• Collect a waste water sample from industry and make a waste water analysis report</li> <li>• Collect a plastic waste from tourist spot involving local community</li> </ul> |

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| 6 | <ul style="list-style-type: none"> <li>➤ Industry, innovation and infrastructure (SDG 9)</li> <li>➤ Sustainable cities and communities (SDG 11)</li> <li>➤ Climate action (SDG 13)</li> <li>➤ Life below water (SDG 14)</li> <li>➤ Life on land (SDG 15)</li> </ul>                                                                        | <ul style="list-style-type: none"> <li>• Climate Change: Impacts, Adaptation and Mitigation</li> </ul> | <ul style="list-style-type: none"> <li>➤ Understanding climate change</li> <li>➤ Projections of global climate change with special reference to temperature, rainfall</li> <li>➤ Observed impacts of climate change on ocean and land systems</li> <li>➤ Green House Gas (GHG)</li> <li>➤ National climate action plan Climate justice.</li> </ul>                                                                                       | <ul style="list-style-type: none"> <li>➤ Seminar on one international case study related to the Climate Change</li> </ul>                                                                                                                                                                                                                            |
| 7 | <ul style="list-style-type: none"> <li>➤ Affordable and clean energy (SDG 7)</li> <li>➤ Industry, innovation and infrastructure (SDG 9)</li> <li>➤ Sustainable cities and communities (SDG 11)</li> <li>➤ Responsible consumption and production (SDG 12)</li> <li>➤ Life below water (SDG 14)</li> <li>➤ Life on land (SDG 15)</li> </ul> | <ul style="list-style-type: none"> <li>• Environmental Management</li> </ul>                           | <ul style="list-style-type: none"> <li>➤ Introduction to environmental laws and regulation</li> <li>➤ Environmental management system: ISO 14001</li> <li>➤ Concept Cost-benefit analysis</li> <li>➤ Environmental audit and impact assessment</li> <li>➤ Pollution control and management</li> <li>➤ Waste Management- Concept of 3R (Reduce, Recycle and Reuse) and sustainability</li> <li>➤ Eco labeling /Eco mark scheme</li> </ul> | <ul style="list-style-type: none"> <li>• Prepare environmental management plan for solid waste disposal in your college campus</li> <li>• Take a photo with reusable materials like plastic bottles, bags etc. and post on Social media such as Instagram, Facebook</li> <li>• Field visit to organization having ISO 14001 Certification</li> </ul> |
| 8 | <ul style="list-style-type: none"> <li>➤ Industry, innovation and infrastructure (SDG 9)</li> <li>➤ Climate action (SDG 13)</li> <li>➤ Life below water (SDG 14)</li> <li>➤ Life on land (SDG 15)</li> </ul>                                                                                                                               | <ul style="list-style-type: none"> <li>• Environmental Treaties and Legislation</li> </ul>             | <ul style="list-style-type: none"> <li>➤ Major International Environmental Agreements</li> <li>➤ Convention on Biological Diversity (CBD)</li> <li>➤ Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES)</li> <li>➤ Vienna Convention for the Protection of the Ozone Layer</li> <li>➤ Major Indian Environmental Legislations</li> <li>➤ Ozone Depleting Substances by India</li> </ul>             | <ul style="list-style-type: none"> <li>• Discussion Major Indian Environmental Legislations</li> <li>• Study of Endangered Species of Wild Flora and Fauna</li> </ul>                                                                                                                                                                                |

### Conclusion:

From present study it is concluded that Universities should develop a multidisciplinary and innovative syllabus for Environment Education at Undergraduate Level to achieve sustainable development goals. Field experience is one of the most effective learning tools for environmental concerns where student observes or discovers new things. Field studies are more essential than class work so more credits should be given to field experiences. The universities/colleges should design activities for students to create environmental awareness in society. Syllabus of Environment Education at Undergraduate Level must include projects in the areas of community engagement and service. Teachers should design green classrooms and organize various competitions related to environmental awareness. The universities/colleges should engage outside resource persons and experts related to environmental education for teaching purpose.

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