

# MAHARASHTRA STATE BOARD OF TECHNICAL EDUCATION (MUMBAI)

**Academic Year 2024 - 2025**

**MICRO-PROJECT PROPOSAL**

“Understanding the Greenhouse Effect”

***Program Name: Computer Engineering Semester: 4K Course Title: EES CourseCode:314301***

**Submitted by,**

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**Under the guidance of,**

# ( Mrs. Nimbal L. S. )



### Annexure-I A

**PART A – PLAN**

**“Micro-Project Title:** **Understanding the Greenhouse Effect”**

**1.0 Brief Introduction:**

The greenhouse effect is a natural phenomenon where certain gases in Earth’s atmosphere trap heat from the Sun, helping to maintain a livable temperature on the planet. However, due to human activities such as burning fossil fuels, deforestation, and industrial processes, excess greenhouse gases are released, enhancing the effect and leading to global warming and climate change. This project focuses on understanding how the greenhouse effect works and its consequences on the environment.

* The **greenhouse effec**t is a natural process that warms the Earth’s surface.
* Sunlight enters the Earth's atmosphere and is absorbed by the surface.
* The Earth emits this energy as heat (infrared radiation).
* **Greenhouse gases** (like CO₂, CH₄, N₂O) trap some of this heat, keeping the Earth warm.
* Human activities (burning fossil fuels, deforestation) increase greenhouse gases.
* This causes **global warming** and contributes to **climate change.**
* Understanding this effect is crucial for environmental protection and sustainability.

**2.0 Aim of the Micro-Project:**

The aim of this micro-project is to study the greenhouse effect as a critical environmental process, understand the role of greenhouse gases in regulating Earth's temperature, and analyze how human-induced activities are intensifying this effect. The project also aims to demonstrate the greenhouse effect through a simple working model and promote awareness about the environmental impacts of global warming, along with suggesting preventive measures for reducing greenhouse gas emissions.

* To understand the **natural greenhouse effect** and its importance in maintaining Earth’s temperature.
* To study the **major greenhouse gases** and their sources (CO₂, CH₄, N₂O, etc.).
* To analyze how **human activities** enhance the greenhouse effect, leading to **global warming**.
* To create a **simple working model or experiment** that demonstrates the greenhouse effect.
* To observe and record **temperature differences** using the model setup.
* To raise **awareness about environmental issues** caused by the enhanced greenhouse effect.
* To explore and suggest **methods to reduce greenhouse gas emissions** and promote sustainability.
* To develop practical, observation, and communication skills through the project.

1. **Action Plan:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Sr.  No. | Details of activity | Planned Start date | Planned Finish date | Name of Responsibl e Team Members. |
| 1 | Topic Selection |  |  | Individual |
| 2 | Background Research |  |  | Individual |
| 3 | Planning the Model/Activity |  |  | Individual |
| 4 | Data Collection & Experiment |  |  | Individual |
| 5 | Analysis and Interpretation |  |  | Individual |
| 6 | Report Preparation |  |  | Individual |
| 7 | Presentation |  |  | Individual |
| 8 | Submit the micro-project |  |  | Individual |

1. **Resources Required:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Sr. No. | Name of Resource / Material | Specifications | Qty. | Remarks |
| 1 | Operating system | Windows 11 | - | - |
| 2 | Reference Book | 1. **Environmental Studies *Author****:* Dr. D.L. Manjunath 2. **Environmental Science: Towards a Sustainable Future** ***Author:*** Richard T. Wright & Dorothy F. Boorse | - | - |
| 3 | Website | [climate.nasa.gov](https://climate.nasa.gov" \t "_new)  [www.nationalgeographic.com/environment](https://www.nationalgeographic.com/environment" \t "_new) | - | - |
| 4 | Software | Chrome, Excel, Internet | - | - |

1. **Any other:**

### Conclusion:

The greenhouse effect is a vital natural process that helps regulate Earth's temperature and sustain life. However, due to increasing human activities such as fossil fuel burning, deforestation, and industrialization, this natural balance is being disturbed, leading to an enhanced greenhouse effect and global warming. Through this microproject, we gained a clear understanding of how greenhouse gases contribute to climate change, observed the effect through a simple model, and explored practical ways to reduce emissions. It is crucial for individuals and communities to adopt eco-friendly practices and raise awareness to protect our environment and ensure a sustainable future for the coming generations.

### Reference:

**United Nations Climate Change (UNFCCC)**

* [https://unfccc.int](https://unfccc.int" \t "_new)

**Down To Earth (Centre for Science and Environment – India)**

* [https://www.downtoearth.org.in](https://www.downtoearth.org.in" \t "_new)

***We request you to please accept our Micro-Project Proposal and we assure you of our sincere performance. Hoping for your co-operation & guidance with us.***

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| --- | --- | --- | --- | --- |
| Sr. No. | Name of Student | Roll Number | Course Code | Student Sign. |
| 1  2 | Nakil S.S  SangleV.V | 242239  242223 | 314301  314301 |  |

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**Micro-Project Guide H.O.D**