GANDHI ACADEMY OF TECHNOLOGY AND ENGINEERING

Department of Mechanical Engineering

LESSON PLAN

(SESSION- 2023-24)

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| **Subject** | **Environmental Studies** | | |
| **Branch** | **Mechanical Engineering** | **Name of the Faculty** | **Mr. ASHIS KU. SATAPATHY** |
| **Course Code** | **Th-5** | **Semester** | **3rd Semester** |
| **Total Periods** | **60** | **Examination** | **2023-24** |
| **Theory Period** | **4P/ W** | **Class Test** | **20** Marks |
| **Maximum Marks** | **100 Marks** | **End Semester Examination** | **80** Marks |

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| **Week** | **Class Day** | **Theory Topics** |
| 1st | 1st | Definition, scope, and importance of Environmental Studies |
| 2nd | Need for public awareness. |
| 3rd | *Doubt Clearing class* |
| 4th | Forest resources: Use and over-exploitation |
| 2nd | 1st | Forest resources: deforestation, case studies, Timber  extraction. |
| 2nd | Mining, dams and their effects on forests and tribal people. |
| 3rd | Water resources: Use and over-utilization of surface and ground water, floods. |
| 4th | Drought, conflicts over water, dams benefits and problems |
| 3rd | 1st | Mineral Resources: Use and exploitation, environmental effects of extracting and using mineral resources |
| 2nd | Food Resources: World food problems, changes caused by agriculture and over grazing. |
| 3rd | Effects of modern agriculture, fertilisers-pesticides problems, water logging, salinity. |
| 4th | Energy Resources: Growing energy need, renewable and non- renewable energy. |
| 4th | 1st | Difference between renewable and nonrenewable energy source |
| 2nd | Land Resources: Land as a resource, land degradation, man induces landslides, soil erosion, and desertification. |
| 3rd | Soil erosion and desertification |
| 4th | *Doubt Clearing class* |

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| 5th | 1st | *Assignment Evaluation & Class Test* |
| 2nd | *QUIZ Test-1* |
| 3rd | Concept of an eco-system. Structure and function of an eco-system. Producers, consumers, decomposers |
| 4th | Producers, consumers, decomposers. |
| 6th | 1st | Energy flow in Ecosystem |
| 2nd | Ecological succession Food chains |
| 3rd | Food webs and ecological pyramid |
| 4th | Introduction, types, characteristic features, structure and function of the following eco system: Forest ecosystem: Aquatic eco systems (ponds, streams, lakes) |
| 7th | 1st | Forest ecosystem. |
| 2nd | Aquatic eco systems- |
| 3rd | Aquatic eco systems- rivers, Oceans, estuaries |
| 4th | *Doubt Clearing class* |
| 8th | 1st | *Assignment Evaluation & Class Test* |
| 2nd | Introduction-Definition: genetics, species and ecosystem diversity. |
| 3rd | Biogeographically classification of India. |
| 4th | Biodiversity at global |
|  | 1st | Threats to biodiversity: Habitats loss |
| 2nd | *Doubt Clearing class* |
| 3rd | Define Environmental pollution & types of pollution. |
| 4th | Air pollution- Sources, Effects, and control |
| 10th | 1st | Water pollution- Sources, Effects and control |
| 2nd | Soil pollution- Sources, Effects and control |
| 3rd | Marine pollution- Sources, Effects, and control |
| 4th | Noise pollution- Sources, Effects, and control |
| 11th | 1st | Thermal pollution- Sources, Effects, and control |
| 2nd | Nuclear hazards- Sources, Effects, and control |
| 3rd | *Doubt Clearing class* |
| 4th | Assignment evaluation, class test |
| 12th | 1st | *QUIZ Test-11* |
| 2nd | Form unsustainable to sustainable development |
| 3rd | Urban problems related to energy. |
| 4th | Water conservation, rain water harvesting, water shed management. |

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| 13th | 1st | Resettlement and rehabilitation of people; its problems nd concern |
| 2nd | Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust, case studies |
| 3rd | Air and water (prevention and control of pollution) Act. |
| 4th | Public awareness |
| 14th | 1st | Population growth and variation among nations. |
| 2nd | Population explosion- family welfare program. |
| 3rd | Environment and human health, Human rights and Value education |
| 4th | Role of information technology in environment and human  health |
| 15th | 1st | *Doubt Clearing class* |
| 2nd | *Assignment Evaluation & Class Test* |
| 3rd | *Discussion of Previous year questions* |
| 4th | *Discussion of Previous year questions* |