

# KIIT POLYTECHNIC, BHUBANESWAR

## LESSON PLAN

### Session (2023-2024)

|                                                       |                                                   |                                                                                                             |
|-------------------------------------------------------|---------------------------------------------------|-------------------------------------------------------------------------------------------------------------|
| <b>Discipline:</b><br>Mechanical Engineering          | <b>Semester:</b><br>3 <sup>rd</sup> , Winter/2023 | <b>Name of the Teaching Faculty:</b><br>Namita Behera, Lecturer<br><b>Email ID:</b> namitafme@kp.kiit.ac.in |
| <b>Subject:</b><br>Environmental Studies,<br>Theory-5 | <b>No. of<br/>Days/Week:</b> 04                   | <b>Start Date:</b> 01/08/2023<br><b>End Date:</b> 30/11/2023                                                |

| Week | Class Day | Theory Topics                                                                                                    |
|------|-----------|------------------------------------------------------------------------------------------------------------------|
| 1st  | 1st       | Definition, scope, and importance of Environmental Studies                                                       |
|      | 2nd       | Need for public awareness.                                                                                       |
|      | 3rd       | <i>Doubt Clearing class</i>                                                                                      |
|      | 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       | <i>Doubt Clearing class</i>                                                                                      |

|      |     |                                                                                                                                                                 |
|------|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5th  | 1st | <i>Assignment Evaluation &amp; Class Test</i>                                                                                                                   |
|      | 2nd | <i>QUIZ Test-1</i>                                                                                                                                              |
|      | 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 | <i>Doubt Clearing class</i>                                                                                                                                     |
| 8th  | 1st | <i>Assignment Evaluation &amp; Class Test</i>                                                                                                                   |
|      | 2nd | Introduction-Definition: genetics, species and ecosystem diversity.                                                                                             |
|      | 3rd | Biogeographically classification of India.                                                                                                                      |
|      | 4th | Biodiversity at global                                                                                                                                          |
|      | 1st | Threats to biodiversity: Habitats loss                                                                                                                          |
|      | 2nd | <i>Doubt Clearing class</i>                                                                                                                                     |
|      | 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 | <i>Doubt Clearing class</i>                                                                                                                                     |
|      | 4th | Assignment evaluation, class test                                                                                                                               |
| 12th | 1st | <i>QUIZ Test-11</i>                                                                                                                                             |
|      | 2nd | Form unsustainable to sustainable development                                                                                                                   |
|      | 3rd | Urban problems related to energy.                                                                                                                               |
|      | 4th | Water conservation, rain water harvesting, water shed management.                                                                                               |

|      |     |                                                                                                                 |
|------|-----|-----------------------------------------------------------------------------------------------------------------|
| 13th | 1st | Resettlement and rehabilitation of people; its problems and 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 | <i>Doubt Clearing class</i>                                                                                     |
|      | 2nd | <i>Assignment Evaluation &amp; Class Test</i>                                                                   |
|      | 3rd | <i>Discussion of Previous year questions</i>                                                                    |
|      | 4th | <i>Discussion of Previous year questions</i>                                                                    |