

# Gandhi Polytechnic, Golanthara

## Dept. of Electrical Engineering

### LESSON PLAN

| <b>Subject :</b>                          |                        | ENVIRONMENTAL STUDIES  |              |
|---|------------------------|--|--------------|
| <b>Discipline:</b> Electrical Engineering |                        | <b>Name of the Faculty:</b> Er.Sudhir Kumar Das  |              |
| <b>Course Code:</b>                       | TH-5                   | <b>Semester:</b>   | 3rd          |
| <b>Total Periods:</b>                     | 60                     | <b>Examination:</b>  | 2022(Winter) |
| <b>Theory Periods:</b>                    | 4P/W                   | <b>Class Test:</b>   | 20           |
| <b>Maximum Marks:</b>                     | 100                    | <b>End Semester Examination:</b>   | 80           |
| <b>No's of Week</b>                       | <b>Periods in week</b> | <b>Theory Topics</b>   |              |
| <b>1st</b>                                | 1st                    | The Multidisciplinary nature of environmental studies: 1.1 Definition, scope and importance.   |              |
|   | 2nd                    | 1.2 Need for public awareness.   |              |
|   | 3rd                    | Natural Resources: Renewable and non renewable resources: 2.1 Natural resources and associated problems.   |              |
|   | 4th                    | 2.1.1. Forest resources: Use and over-exploitation, deforestation, case studies, Timber extraction mining, dams and their effects on forests and tribal people.                        |              |
| <b>2nd</b>                                | 1st                    | 2.1.2. Water resources: Use and over-utilization of surface and ground water, floods, drought, conflicts over water, dam's benefits and problems.                                      |              |
|   | 2nd                    | 2.1.3. Mineral Resources: Use and exploitation, environmental effects of extracting and using mineral resources.   |              |
|   | 3rd                    | 2.1.4. Food Resources: World food problems, changes caused by agriculture and over grazing, effects of modern agriculture, fertilizers- pesticides problems, water logging, salinity,. |              |
|   | 4th                    | 2.1.5. Energy Resources: Growing energy need, renewable and non-renewable energy sources, use of alternate energy sources, case studies.   |              |
| <b>3rd</b>                                | 1st                    | 2.1.6. Land Resources: Land source, land degradation, man induces landslides, soil erosion, and desertification.   |              |
|   | 2nd                    | 2.2 Role of individual in conservation of natural resources.   |              |
|   | 3rd                    | 2.3 Equitable use of resources for sustainable life styles.  |              |
|   | 4th                    | Systems: 3.1. Concept of an eco system.  |              |
| <b>4th</b>                                | 1st                    | 3.2. Structure and function of an eco system.  |              |
|   | 2nd                    | 3.3. Producers, consumers, decomposers.  |              |
|   | 3rd                    | 3.4. Energy flow in the eco systems. 3.5. Ecological succession.   |              |
|   | 4th                    | 3.6. Food chains, food webs and ecological pyramids.   |              |
| <b>5th</b>                                | 1st                    | 3.7. Introduction, types, characteristic features, structure and function of the eco system  |              |
|   | 2nd                    | Biodiversity and it's Conservation: 4.1. Introduction-Definition: genetics, species and ecosystem diversity.   |              |
|   | 3rd                    | 4.4. Biodiversity at global, national and local level.   |              |
|   | 4th                    | 4.5. Threats to biodiversity: Habitats loss, poaching of wild life, man wildlife conflicts   |              |
| <b>6th</b>                                | 1st                    | Environmental Pollution:   |              |
|   | 2nd                    | 5.1. Definition Causes, effects and control measures of:<br>5.1.1 Air pollution.   |              |
|   | 3rd                    | 5.1.2 Water pollution  |              |
|   | 4th                    | 5.1.3 Soil pollution   |              |
| <b>7th</b>                                | 1st                    | 5.1.4 Marine pollution   |              |
|   | 2nd                    | 5.1.5 Noise pollution.   |              |
|   | 3rd                    | 5.1.6 Thermal pollution  |              |
|   | 4th                    | 5.1.7 Nuclear hazards  |              |

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| <b>8th</b>  | <b>1st</b> | 5.2. Solid waste Management: Causes, effects and control measures of urban and industrial wastes.                     |
|             | <b>2nd</b> | 5.3. Role of an individual in prevention of pollution.  |
|             | <b>3rd</b> | 5.4. Disaster management: Floods, earth quake, cyclone and landslides.  |
|             | <b>4th</b> | Social issues and the Environment: 6.1. Form unsustainable to sustainable development.                                |
| <b>9th</b>  | <b>1st</b> | 6.2. Urban problems related to energy.  |
|             | <b>2nd</b> | 6.3. Water conservation, rain water harvesting, water shed management.  |
|             | <b>3rd</b> | 6.4. Resettlement and rehabilitation of people; its problems and concern  |
|             | <b>4th</b> | 6.5. Environmental ethics: issue and possible solutions   |
| <b>10th</b> | <b>1st</b> | Forest ecosystem  |
|             | <b>2nd</b> | Aquatic eco systems (ponds, streams, lakes, rivers, oceans estuaries).  |
|             | <b>3rd</b> | 6.6. Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust, case studies. |
|             | <b>4th</b> | 6.7. Air (prevention and control of pollution) Act.   |
| <b>11th</b> | <b>1st</b> | 6.8. Water (prevention and control of pollution) Act.   |
|             | <b>2nd</b> | 6.9. Public awareness.  |
|             | <b>3rd</b> | Human population and the environment: 7.1. Population growth and variation among nations.                             |
|             | <b>4th</b> | 7.2. Population explosion- family welfare program.  |
| <b>12th</b> | <b>1st</b> | 7.3. Environment and human health.  |
|             | <b>2nd</b> | 7.4. Human rights. 7.5. Value education   |
|             | <b>3rd</b> | 7.6. Role of information technology in environment and human health   |
|             | <b>4th</b> | Revisions   |
| <b>13th</b> | <b>1st</b> | Revisions   |
|             | <b>2nd</b> | Revisions   |
|             | <b>3rd</b> | Revisions   |
|             | <b>4th</b> | Revisions   |
| <b>14th</b> | <b>1st</b> | Revisions   |
|             | <b>2nd</b> | Revisions   |
|             | <b>3rd</b> | Revisions   |
|             | <b>4th</b> | Revisions   |
| <b>15th</b> | <b>1st</b> | Revisions   |
|             | <b>2nd</b> | Revisions   |
|             | <b>3rd</b> | Revisions   |
|             | <b>4th</b> | Revisions   |