**BHUBANANANDA ODISHA SCHOOL OF ENGINEERING, CUTTACK**

**DEPARTMENT OF MECHANICAL ENGINEERING**



**LESSON PLAN**

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| SUBJECT: ENGINEERING MATERIAL | ACADEMIC SESSION: 2022-23 |
| FACULTY: MR. **S.P.B.B.BHATTA** | SEMESTER: 3RD  |
|  | SEC: B |

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| P T G F (Mech Engg.) |

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| **Discipline:****Mechanical Engineering** | **Semester: 3rd A** | **Name of the teaching faculty:****S.P.B.B.BHATTA** |
| **Subject:****ENVIRONMENTAL STUDIES**  | **No. of Days/ per week class allotted: 04periods per week** **Mon-1 period, WED-1 period,THU-1 period, SAT -1 period)** | **Semester From Date: 15-09-2022 To Date: 22-12-2022****No. of weeks: 14 weeks** |
| **Week** | **Class Day** | **No of period available** | **Theory Topics** |
| 1ST | (15.09.2022) | 1 | **Unit 1: The Multidisciplinary nature of environmental studies**Definition, |
| (16.09.2022) | 1 | scope and importance, |
| 2nd |  (20.09.2022) | 1 | Need for public awareness |
|  (21.09.2022) | 1 | Need for public awareness |
|  (22.09.2022) | 1 | **Unit 2: Natural Resources****Renewable and non renewable resources:**a) Natural resources and associated problems.Forest resources: Use and over-exploitation, deforestation, casestudies, Timber extraction mining, dams and their effects on forestsand tribal people. |
| (23.09.2022) | 1 | Water resources: Use and over-utilization of surface and groundwater, floods, drought, conflicts over water, dam’s benefits andproblems. |
| 3rd | (27.09.2022) | 1 | Mineral Resources: Use and exploitation, environmental effects ofextracting and using mineral resources. |
|  (28.09.2022) | 1 | Food Resources: World food problems ,changes caused byagriculture and overgrazing,effectsofmodernagriculture,fertilizerspesticidesproblems, water logging, salinity,. |
| (29.09.2022) | 1 | Energy Resources: Growing energy need, renewable and nonrenewable energy sources, use of alternate energy sources, casestudies. |
|  (30.09.2022) | 1 | Land Resources: Land as a resource ,land degradation ,man induceslandslides, soil erosion, and desertification.b) Role of individual in conservation of natural resources.c) Equitable use of resources for sustainable lifestyles. |
| 4th | (11.10.2022) | 1 | **Unit 3: Systems**Concept of an ecosystem.Structure and function of an ecosystem. |
| (12.10.2022) | 1 | Producers, consumers, decomposers. |
| (13.10.2022) | 1 | Energy flow in the ecosystems. |
| (14.10.2022) | 1 | Ecological succession.Food chains, food web sand ecological pyramids. |
| 5th |  (18.10.2022) | 1 | Introduction, types, characteristic features, structure and functionof the following ecosystem: |
|  (19.10.2022) | 1 | Forest ecosystem:Aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries) |
| (20.10.2022) | 1 | **Unit 4: Biodiversity and it’s Conservation**Introduction-Definition: genetics, |
| (21.10.2022) | 1 | species and ecosystem diversity. |
| 6th | (26.10.2022) | 1 | Biogeographically classification of India |
|  (27.10.2022) | 1 | Value of biodiversity: consumptive use |
| (28.10.2022) | 1 | productive use, socialethical, aesthetic and opt in values. |
| 7TH | (01.11.2022) | 1 | Biodiversity at global, national and local level. |
|  (02.11.2022) | 1 | Threats to biodiversity: Habitats loss |
| (03.11.2022) | 1 | poaching of wild life, manwildlife conflictsClass test-02 |
|  (04.11.2022) | 1 | **Unit 5: Environmental Pollution.**Definition Causes, effects and control measures of:a) Air pollution. |
| 8TH | (09.11.2022) | 1 | Definition Causes, effects and control measures of:b)Water pollution. |
| (10.11.2022) | 1 | Definition Causes, effects and control measures of:c) Soil pollution |
| (11.11.2022) | 1 | Definition Causes, effects and control measures of:d) Marine pollution |
| 9TH | (15.11.2022) | 1 | **Internal examination** |
|  (16.11.2022) | 1 | **Internal examination** |
|  (17.11.2022) | 1 | Definition Causes, effects and control measures of:e) Noise pollution. |
| (18.11.2022) | 1 | Definition Causes, effects and control measures of:f) Thermal pollution |
| 10TH | (22.11.2022) | 1 | Definition Causes, effects and control measures of:g) Nuclear hazards |
|  (23.11.2022) | 1 | Solid waste Management: Causes, effects |
|  (24.11.2022) | 1 | control measures of urban andindustrial wastes. |
| (25.11.2022) | 1 | Role of an individual in prevention of pollution. |
| 11TH | (29.11.2022) | 1 | Disaster management: Floods |
| Wednesday (30.11.2022) | 1 | Class test-03 |
| Thursday (01.12.2022)Friday (02.12.2022) | 11 | earth quake, cyclone and landslides.**Unit 6: Social issues and the Environment**From unsustainable to sustainable development**.**Urban problems related to energy. |
| 12TH | (06.12.2022) | 1 | Water conservation, rain water harvesting, water shed management |
| (07.12.2022) | 1 | Resettlement and rehabilitation of people; its problems and concern. |
| (08.12.2022) | 1 | Environmental ethics: issue and possible solutions. |
| (09.12.2022) | 1 | Climate change, global warming, acid rain, ozone layerdepletion, nuclear accidents and holocaust, case studies. |
| 13TH | (13.12.2022) | 1 | Air (prevention and control of pollution) Act.Water (prevention and control of pollution) Act.Public awareness. |
|  (14.12.2022) | 1 | **Unit 7: Human population and the environment**Population growth and variation among nations.Population explosion-family welfare program. |
| (15.12.2022) | 1 | Human rights.Value education |
| (16.12.2022) | 1 | Role of information technology in environment and human health |
| 14TH | (20.12.2022) | 1 | **REVISION** |
| (21.12.2022) | 1 | **REVISION** |
|  (22.12.2022) | 1 | **REVISION** |