**LESSON PLAN: ENVIROMENTAL STUDIES/EVS-201-L**

**Name of the Faculty: Anit Bansal**

**Discipline:** Mechanical Engineering

**Semester:** 4th Semester

**Subject: ENVIROMENTAL STUDIES/EVS-201-L**

**Lesson Plan Duration:** 15 weeks (from January, 2019 to April, 2019)

**Work Load (Lecture) per week (in hours):** Lectures-03

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| Week  | Lecture Day | Syllabus |
| 1st | 1st | Environmental Studies - Definition, scope and importance, need for public awareness, |
| 2nd | Environmental Studies - importance |
| 3rd | Environmental Studies - need for public awareness, |
| 2nd | 4th | Concept of ecosystems, Structure and function of an ecosystem, Producers, consumers and decomposers, Energy flow in the ecosystem,  |
| 5th | Ecological succession ,Food chains, Food webs and ecological pyramids, Introduction, types, characteristics features,  |
| 6th | structure and function of the following ecosystems: Forest ecosystem, Grassland ecosystem  |
| 3rd  | 7th | Desert ecosystem, Aquatic ecosystem (Ponds, Stream, lakes, rivers, oceans, estuaries), |
| 8th | Study of simple ecosystems – ponds, river, hill slopes etc.  |
| 9th | Activity - Visit to a local area to document environmental assets- river/forest/grassland/hill/mountain |
| 4th | 10th | Renewable and non-renewable resources, Natural resources and associated problems,  |
| 11th | Forest resources: Use and over-exploitation, deforestation, case studies,  |
| 12th | Timber extraction, mining, dams and their effects on forests and tribal people,  |
| 5th | 13th | Water resources: Use and over utilization of surface and ground water, floods, droughts conflicts over water, dams benefits and problems,  |
| 14th | Mineral resources: Use and exploitation, environmental effects of extracting and mineral resources,  |
| 15th | Food resources: World food problem, changes caused by agriculture and overgrazing, effects of modern agriculture, fertilizer-pesticide problems, water logging, salinity,  |
| 6th | 16th | Energy resources: Growing energy needs, renewable and non-renewable energy sources, use of alternate energy sources, case studies,  |
| 17th | Land resources: Land as a resource, land degradation, main induced landslides, soil erosion and desertification,  |
| 18th | Role of an individual in conservation of natural resources, Equitable use of resources for suitable lifestyle.  |
| 7th | 19th | Introduction-Definition: genetic, species and ecosystem diversity |
| 20th | Bio geographical classification of India, Value of biodiversity: consumptive use, productive use, social ethical, aesthetic and option values,  |
| 21st | Value of biodiversity: consumptive use, |
| 8th | 22nd | productive use, social ethical, aesthetic and option values,  |
| 23rd | Biodiversity at global, national and local level, India as a mega-diversity nation,  |
| 24th | Hot-spot of biodiversity, Threats to biodiversity: habitat loss, poaching of wildlife, man-wildlife conflicts. |
| 9th | 25th | Endangered and endemic species of India, Study of common plants, insects, birds. |
| 26th | Definition of Environment Pollution, types, sources, related problems |
| 27th | Definition of Environment Pollution, types, sources, related problems |
| 10th | 28th | Causes, effects and control measures of: Air Pollution, Water Pollution,  |
| 29th | Causes, effects and control measures of: Soil pollution, Marine pollution, Noise pollution,  |
| 30th | Causes, effects and control measures of: Thermal pollution, Nuclear hazards, Solid waste Management: effects and control measures of urban and industrial wastes. |
| 11th | 31st | individual in prevention of Role of and pollution, Pollution case studies,  |
| 32nd | Disaster management: floods, earthquake, cyclone and landslides,  |
| 33rd | Activity - Visit to a local polluted site- Urban/Rural/Industrial/Agricultural |
| 12th | 34th | Sustainable development – Definition, Importance and Need, From unsustainable of Sustainable development – Case Studies |
| 35th | Urban problems related to Energy, Water conservation |
| 36th | Urban problems related to rain water harvesting, watershed management, |
| 13th | 37th | Resettlement and rehabilitation of people; its problem and concern,  |
| 38th | Environment ethics: Issues and possible solutions,  |
| 39th | Case studies – Smog, Ozone layer depletion, Nuclear accidents |
| 14th | 40th | Wasteland reclamation, Consumerism and waste products |
| 41st | Environment Protection Act, Air (Prevention and Control of Pollution) Act,  |
| 42nd | Water (Prevention and Control of Pollution) Act, Wildlife Protection Act, Forest Conservation Act. |
| 15th | 43rd | Issues involved in enforcement of environmental legislation, Public awareness, Population growth, variation among nation, |
| 44th | Population explosion- Family Welfare Programme, Environment and human health , Human Rights,  |
| 45th | Value Education, HIV/AIDS, Women and Child Welfare, Role of Information Technology in Environment and human health, Case Studies |