	DPG Institute of Technology and Management **Sector 34, Gurugram HR-122004** **Lesson Plan**
	Course Name: Environmental Science
	Faculty Name: Dr. Mamta Devi

No. of Lecture Hours/ Week	**3**	**Exam Hours**	**3**
Total No. of Lecture Hours	**40**	**Exam Marks**	**75**
Course Code :			

Course Objectives:

It will guide the students living in a historic transitional period of burgeoning awareness of the conflict between human activities and environmental constraints to help and save the fragile and endangered planet, with the natural resources already overexploited.

S.No.	Unit No./Bloom Level	Topics to be Covered	Nature of Class	#Remarks
1	**Section A**	The Multidisciplinary Nature of Environmental Studies. Definition, scope and importance	Offline	Chalk and Talk
2		Forest resources: Use and over-exploitation: deforestation, case studies. Timber extraction, mining dams and their effects on forests and tribal people	Offline	Chalk and Talk
3		Water resources: Use and over-utilisation of surface and groundwater, floods, drought, conflicts over water, dams- benefits and problems	Offline	Chalk and Talk
4		Mineral resources: Use and exploitation,	Offline	Chalk and Talk

		environmental effects of extracting and using mineral resources, case studies.		
5		Food resources: World food problems, changes caused by agriculture and overgrazing, effects of modern agriculture, fertiliser-pesticide problems, waterlogging, salinity, case studies.	Offline	Chalk and Talk
6		Energy resources: Growing energy needs; renewable and non-renewable energy sources, use of alternative energy sources, case studies.	Offline	Chalk and Talk
7		Land resources: Land as a resource, land degradation, man-induced landslides, soil erosion and desertification.	Offline	Chalk and Talk
8	**Section B**	Ecosystem: Structure and function of an ecosystem.	Offline	Power Point Presentation
9		Producers, consumers and decomposers.	Offline	Power Point Presentation
10		Energy flow in the ecosystem, Ecological succession.	Offline	Chalk and Talk
11		Food chains, food webs and ecological pyramids.	Offline	Chalk and Talk
12		Forest ecosystem. Grassland ecosystem.	Offline	Power Point Presentation
13		Desert ecosystem.	Offline	Chalk and Talk
14		Aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries)	Offline	Power Point Presentation
15	**Section C**	Biodiversity and its conservation	Offline	Power Point Presentation

16		Introduction - Definition: Genetic, Species and Ecosystem Diversity. Biogeographical classification of India.	Offline	Chalk and Talk
17		Value of biodiversity: consumptive use, productive use, social, ethical, aesthetic and option values. Biodiversity at global, National and local levels.	Offline	Power Point Presentation
18		India as a mega-diversity nation. Hot-spots of biodiversity.	Offline	Chalk and Talk
19		Threats to biodiversity: habitat loss, poaching of wildlife, and man-wildlife conflicts.	Offline	Power Point Presentation
20		Endangered and endemic species of India.	Offline	Power Point Presentation
21		Conservation of biodiversity: In-situ and ex-situ conservation of biodiversity.	Offline	Power Point Presentation
22	**Section D**	Environmental pollution : Definition, causes, effects and control measures of : Air Pollution	Offline	Power Point Presentation
23		Water Pollution	Offline	Chalk and Talk
24		Soil pollution, Marine pollution	Offline	Chalk and Talk
25		Noise pollution, Thermal pollution	Offline	Chalk and Talk
26		Nuclear hazards	Offline	Chalk and Talk
27		Solid waste management: causes, effects and control measures of urban and industrial wastes.	Offline	Chalk and Talk
28		Role of an individual in the prevention of pollution. Pollution	Offline	Power Point Presentation

		case studies. Disaster management: floods, earthquakes, cyclones and landslides.		
29	**Section E**	Social Issues and the Environment:	Offline	Chalk and Talk
30		From unsustainable to sustainable development.	Offline	Chalk and Talk
31		Urban problems related to energy. Water conservation, rain water harvesting, watershed management.	Offline	Chalk and Talk
32		Resettlement and rehabilitation of people : its problems and concerns case studies.	Offline	Power Point Presentation
33		Environmental ethics : Issues and possible solutions, Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust. Case studies.	Offline	Power Point Presentation
34		Wasteland reclamation. Consumerism and waste products. Environment Protection. Air (Prevention and Control of Pollution) Act. Water (Prevention and Control of Pollution) Act.	Offline	Chalk and Talk
35		Wildlife Protection Act. Forest Conservation Act. Issues involved in the enforcement of environmental legislation. Public awareness.	Offline	Power Point Presentation

**Nature of class may be: regular class/tutorial class/extra class/ etc.*

 # Remarks column mention: chalk & talk /ICT-based/ Flip class/PPT, etc.

REFERENCE BOOKS:

- Environmental Science & Engineering - Benny Joseph
- Environmental Engineering - Peavy, Rowe & Tchobanoglous
- Principles of Environmental Engineering & Science - Mackenzie L. Davis
- Environmental Chemistry - A. K. De
- Introduction to Environmental Engineering - Davis & Cornwell